



AMERICAN FARMERS' MAGAZINE.

J. G. Catledge

VOLUME. XI.

New-York:

J. A. NASH, EDITOR AND PUBLISHER,

NO. 7 BEEKMAN STREET.

1858.

8730

630.5

A55

v.11

JOHN A. GRAY,
Printer and Stereotyper,
Nos. 16 & 18 Jacob St.

INDEX TO VOLUME XI.

FROM JANUARY, 1858, TO DECEMBER, 1858.

A

Agriculture, 149, 215, 650.
Agricultural Education, 12, 273, 302, 308, 341, 521, 643, 666, 698, 705, 722.
Agricultural Implements, 99.
Agricultural Journals, 31, 68, 198, 273, 349.
Agricultural Societies, 211, 637, 636, 683, 679, 676.
Apple Tree Borer, 358.
Aquaria, 48.
Asiatic Goats, 5.
Atmosphere, 298.
Autumnal Cultivation, 15, 675.
Ayre's Water Elevator, 29.

B

Banks of Deposit, 517.
Benevolence, 696.
Black Tongue, 601.
Bones, 88.
Book Notices, 118, 181, 312, 442, 509, 569, 635, 698.
Breeds of Cattle, 27, 85, 161.
Butter, 219, 458, 518.
Buckwheat, 398.

C

Calendar, 36, 89, 163, 221, 276, 352, 413, 478, 540, 618, 688.
Canker Worm, 602.
Cat's Paw, 259.
Caterpillars, 325.
Cattle, 21, 133, 154, 200, 329, 333, 455, 601, 633, 715.
Cements, 301.
Chemical, 42, 102, 173, 227, 294.
Climate, 229.
Cold Water Man, 638.
Crops of 1858, 630.
Corn, Indian, 74, 82, 187, 270, 323, 372, 385, 531, 634, 673.
Country Life, 274.
Coal Ashes, 305.
Composts, 409, 720.
Cranberries, 223.
Crows, 465.
Cherry Currant, 463.
Country Farm, 586.
Cucumbers, 232, 693.

D

Dairy Management, 153.
Deodar Cedar, 354.
Dogs, 274, 407.
Diseases of Wheat, 399.
Diseases of Animals, 601.
Draining, 479.
Drunkenness, 305.

E

Economy on the Farm, 269, 156.
Editor's Table, 50, 116, 131, 313, 377.
Educational, 46, 47.
Edward Everett, 17.
England, 115, 303.
Egg Plant, 619.
Effects of Tobacco, 633.
Entomology, 643.

F

Fall in Prices, 88.
Farmer, The, 14, 32, 54, 65, 129, 194, 206, 242, 349.
Farmers' Club, 246, 326, 400, 558, 592.
Farmer's Family, 322.
Fairs, 645, 676, 683, 686.
Farming in New-Jersey, 650.
Fences, 155, 410.
Fish, Propagation of, 642.
Flowers, 90, 164, 481.
Flax Culture, 399.
Fruit Trees, 33, 455, 559, 602.
Fuel, Preparation of, 373, 593.
Fruits, 166, 278, 369, 467.

G

Garden, 164, 217, 225, 232, 330, 473, 481, 500, 690, 693.
Geology, 697.
Gelatine, 33.
Gold Ring, 359.
Grapes, 33, 49, 691.
Green Manures, 337.
Grasses, 462.
Grass Seeds, 494.
Grandpa's Letters to Boys, 506, 556, 623.

H

Harvesting Machines, 39.
Hay and Haying, 84, 387.
Hermitess of South Salem, 109, 175.
Hessian Fly, 605.
Heroines of Oneida, 237, 283.
Hedges, 335.
Hints for the Season, 8, 258, 321, 449, 514, 577, 612, 712.
Home, 54.
Horse Shoes, 39.
Hungarian Rye Grass, 5, 341.
Horticulture, 149, 225, 276.
Horse Racing, 306.
"Hoe Out," 437.
Humbugs, 541.

I

Implements, 326.

Insects, 90, 534, 605.
 Inventions, 595.
 Iron, 89.
 Irrigation, 208.

J

Jenny, 492.
 Jersey Helfer, 384.

K

Kind Words, 693.
 Kitchen Garden, 89, 163, 222, 252, 277.

L

Land, 147, 524, 705.
 Lands, Public, 705, 722.
 Landscape Gardening, 90.
 Lawton Blackberry, 314, 545.
 Life Preserver, 40.
 Lime, 338, 395.
 Live Cattle, Weight of, 341.
 Liquors, 495.
 Liquid Manuring, 649.
 Lice on Cattle, 82.
 Llamas, 92.
 Luck, 847.

M

Manures, 32, 54, 70, 455, 715.
 Meteorology, 42, 105, 174, 244, 295.
 Mechanic, The, 242.
 "Mind makes the Man," 289.
 Mice, 306.
 Moles, 529.
 Monthly Review, 55, 121, 210.
 Mortars, 801.
 Mowing Machines, 663.
 Mudsills, 491.

N

Native Cattle, 390.
 Native Wines, 467.
 New Years, 1.
 New Vegetables, 151.
 Novelette, 502.

O

Oats, 387.
 Occupation, 189, 496, 505.
 Oliver, Gen. H. K., address of, 22.
 Orchard, 164, 325, 413, 417, 432.
 "Over the River," 480.

P

Past and Present, 50.
 Pastures, 324, 458.
 Pears, 86, 356.
 Physiology, 171.
 Pirates of Saugus, 430, 485.
 Pilgrim Fathers, 427.
 Pig Pen, 516.
 Plaster, 671.
 Plowing, 15, 269, 273.
 Planing Machines, 169.
 Potato Disease, 7, 14.
 Portable Manures, 715.
 Pomological, 482, 543, 610.
 Potatoes, 213, 273, 324, 336, 385, 459, 580.
 Printing Presses, 39.
 Progress, 50.
 Pumps, 169.

Q

Question, A, 475.
 Questions and Answers, 275.

R

Robin, 332.
 Roses, 85, 277, 414.
 Rose Bugs, 414.
 Root Crops, 386, 455, 514.
 Rust in Oats, 600.
 Rye, 388, 579.

S

School, 329.
 Science and Practice, 391.
 Seedlings, 335.
 Sexes of Strawberries, 415, 548.
 Sheep, 4, 79, 83, 219, 274, 454, 466, 515.
 Snow, 76.
 Soot, 412.
 Soups, etc., 55.
 Soils, 218, 473.
 Stoves, 39.
 Starch, 535.
 Steam Culture, 651.
 Stump Pullers, 592.
 Strawberries, 93, 226, 415, 438, 452, 480, 547, 548.
 Sugar Cane, (Chinese,) etc., 14, 26, 40, 87, 88, 150, 330, 343, 456, 472, 501, 519, 664, 718.
 Summer Seeding, 450, 515.
 Summer Fallowing, 267.
 Subsoiling, 13, 604.
 Swamp Muck, 475, 521.
 Sweet Potatoes, 577.
 Swine, 274, 651.

T

Tan, 412.
 Telegraph, Submarine, 555.
 Tile Draining, 411.
 Tomatoes, 274, 307, 549, 559, 568, 691, 692.
 Truth and Fiction, 29.
 Transfusion of Blood, 299.
 Trees, 358, 883.
 Trenching, 479.

U

Underdraining, 208, 226, 529.
 Unfermented Manure, 73.

V

Violet, 435,

W

Waste in Fertilizers, 84.
 Wall Roses, 85.
 Washington, 598.
 Washing Machines, 39.
 Webster, Daniel, Letter of, 694.
 Weeds, 454, 591.
 Weevil, 526, 527, 590, 651.
 Wheat Midge, 409, 526, 590, 651.
 Who Liveth, 52.
 Wheat, 26, 272, 388, 396, 531, 577.
 What we Want, 353.
 Witchcraft in 17th Century, 550, 625.
 Williams, Roger, 363.
 Worms, 335.
 Wood and Timber, 217, 234.
 Wool, 157.

Y

Yankee Contrivances, 87.
 Young Men, 587.



AMERICAN FARMERS' MAGAZINE.

VOL. XI.

JANUARY, 1858.

No. 1.

Agricultural.

THE NEW YEAR.

WHILE tendering to our readers the congratulations of the season, and wishing as we heartily do, that their coming year may be a happy and prosperous one, we do not forget that, in the relation we sustain to them, something depends upon us.

If we discharge our duties with a sound judgment, and a heart in sympathy with their avocation, knowing as we do its difficulties, and having experienced its pleasures, they can hardly fail to derive from our labors some increase of material wealth, but more we would fain hope of intellectual riches, and still more of those pleasures which are derived from seeing their children advancing in knowledge and goodness.

On the contrary, we are equally aware, that if our writings should be ill-judged and untimely, supercilious and arrogant, pretending rather than reliable, in no soulful sympathy with the working farmer, dropped along the track of the coming year in a care-for-nobody spirit, or with a manifested preference for men of any and all other callings over the producer from the soil, they would be

losers rather than gainers, in whatever goes to make up the sum of their happiness. It would not be for their interest to read us through the year, and probably they would not.

There is a middle ground. If our articles should be pretty good, but no better than are found every where; if our selections should be well enough, but such that you would say they might be a great deal better; if our whole journal should be made up of negative excellencies, faultless and nothing more, it would contribute no great to the material, intellectual, or social welfare of our readers, and might possibly damage them by displacing one of a more positive character.

It is not by an Agricultural Journal of medium qualities, faultless without excellence; and certainly it is not by one of positively bad characteristics, untrue in its teachings, and unsympathizing towards the farmer, that the great cause of soil culture, with profit, and honor, and happiness to the cultivator, can be advanced. And yet to advance this cause is to advance the cause of universal humanity; for it is impossible that our country should make progress in this line and the whole world not par-

participate, at no very distant day, in the benefits.

If a higher civilization is to dawn on mankind, and if Christianity is yet to have a more perfect work, in both of which we believe, agriculture, to which the Creator has destined at least half the human family, must be honored in the hearts of all men, and not merely by the words of the wily politician when he wants the farmer's vote. Improved methods must be spread abroad. New methods must be introduced. We are not at the end of all improvement yet. Brain work and labor-saving improvements must relieve the severity of toil. Farm work must not be a working of the body at the expense of the mind; but a business concern that makes both mind and body strong and active.

One half of our community should be farmers, and every one of them proud that he is. A very large portion of the other half should be mechanics, and not a whit ashamed of it. Neither should be in danger of hearing it said, or seeing it acted, he's nothing but a farmer; he's nothing but a mechanic—mere workies, and nothing more. As these two classes create all the wealth, they should possess a pretty good share of it. They need merchants and bankers enough to help in their exchanges, but not enough to rule and ruin them. Merchants, clergymen, lawyers, doctors, teachers, are all wanted; but in a well-regulated community they would not all together constitute more than one in a hundred. If one merchant could not make the exchanges for a thousand people, and one minister do their preaching, and one lawyer their quarreling, and one doctor their healing, and half-a-dozen teachers dispel their ignorance, it must be because there is something wrong.

The great mass should be employed either in drawing raw materials from the earth, or in molding them into forms of additional utility by their handiwork. Above all things it should be no detri-

ment to any one to be so employed, and yet it will be till more live by their industries and less live out of them. There is, however, no use in scolding. If there is "a good time coming," it will be brought about by improvements in the condition of those who do the real, necessary business of the world. First on the list are the farmers. In the inauguration and carrying on of improvements nearly every thing depends upon themselves. If they are to have a good year of this 1858, they, with the blessing of God, must make it so.

So far as the peculiar duties of the agricultural Editor are concerned, we are fully convinced that no *wrong side* Journal will answer their purpose. No half-way teachings will do them much good. They want the best, and it is no easy task to furnish it. We enter upon the new year with earnest purpose, but not without misgivings. Our purpose is to give our readers a better Journal than at any former time; to furnish well-considered, reliable articles on all the leading questions of farming, gardening, fruit culture, stock-growing, and dairying; to adorn our pages more than heretofore with such engravings as may illustrate the subjects and thus be of practical utility; to give our full share of mechanical matter, and to select with reference to its usefulness to the farmer as well as to the mechanic; and to enliven our miscellaneous pages with a variety that shall be at once amusing and instructive. We hope to enlist the interest of young men in our scientific articles, and shall hope to give the children occasional amusement, and perhaps some words of kindly advice, that may aid their mothers in training them to virtue and usefulness.

Such are our purposes, such our hopes; and although we have our fears, we continue our labors with a full conviction of their importance, and a determination to do what in us lies to advance the prosperity and happiness of our readers for the year to come.—ED.

HINTS FOR THE SEASON.

THERE is little farm work on hand for this month. If the farmer takes a kindly care for all around him, keeping everything in an orderly, thriving condition, laying his plans for the future, and making such provision for their prosecution as can be made now to better advantage than at any future time, it is about as much as should be expected, and if any man living has a right to pause in the bustle of life and take comfort, he has.

Self-culture is the first duty of all. Now is the time when the farmer, if he seizes the golden opportunity, may out-strip men in almost any other calling. The stormy days and long evenings of winter are his by a peculiar right. They are a boon which he should value. The lawyer, the merchant, and even the mechanic may become more flippant, but the farmer should *know* more than either, and if true to himself he will.

Attend the evening lectures if you have any; and if you have none, be not backward in helping to get them up. Read your agricultural and other papers; and, more than this, read works on history, art, science, literature, political economy, etc.; and learn not only the duties of your own calling, but whatever will make you an intelligent, influential, and useful citizen. You are the cultivator of the earth; you make it more beautiful and more productive; we suppose you are improving everything about you; and if so, all praise is due; but do not neglect yourself.

Next is your family. Is everything done for their comfort, for their advancement in knowledge, for their present and permanent well-being? It would be well for you to look into the school, and see that your children are making progress. Of course you will take them to the lectures with you. Why should you not take them to the farmers' club? Young people are social in their feelings, and it is well that they are, and you should encourage them in all rational

and innocent pleasures. If you will prepare yourself to speak at your evening gatherings, it will do you good as well as others, and why not encourage your sons to take a part? A little study and a little practice may prepare them to take a high and useful position as citizens of this free country. By all means, encourage your sons and daughters to read, and if possible, amid the trashy literature of the times, persuade them to read such books as will make them acquainted, not with mere fancy worlds, but with the veritable world we inhabit, and make them better men and women, to enact a part in this same world.

See that the stalls, the folds, and the pens are all warm; that no feed is wasted, either by being trodden under foot, or by being devoured by animals so uncomfortably cold that the whole goes to keep them from freezing, and none to produce growth. Above all let the animals that give milk be warm, and give them plenty of succulent food. How can the pail be filled, or how can the suckling young thrive, if the mother be not kindly dealt by? Every farmer knows, or should, that there is more profit, twice told, in keeping a milk cow, or a suckling animal of any kind, well, than by inferior care.

The old wood pile, we hope, will not be gone till May; but early, before the snow drifts, is the best time to get up the next year's stock. What a bother, when the plow should be going, to have a child come and tell you that oven wood is wanted! To have the dinner half cooked for the want of well-dried wood is almost as bad. There is no surer sign of a good farmer, to say nothing of a good husband and father, than never to be out of dry wood.

Fencing stuff, in many cases, can be removed advantageously in January; and if there is lumber to be got to the sawmill, the first snows are the best. Other things will suggest themselves to the enterprising farmer. Nothing is

better settled, than that such a farmer never finds a time when there is "nothing to do." It is only the shabby farmer that can find no work.

But our object was rather to call attention to the great importance of self-culture and the comfort and improvement of the family. Winter is the harvest time for those things. The farmers of our country should strive to be equal—superior if they can—to any other class.

Let not this winter go by without a step towards a consummation so devoutly, so patriotically to be wished. Push yourself on the race, start your children on the race early.—ED.

INTRODUCTION OF MERINO SHEEP INTO THE UNITED STATES.

BY CASTIGATOR.

S. G. GOODRICH, alias Peter Parley, feeling that he must needs write a book, appeared to think that he could make said book by writing down all that he could *recollect of a life time*, but failing in obtaining the requisite amount of material, he was driven to the pitiable alternative, as we find on page 404, Vol. I, of his *Recollections of a Life Time*, of quoting from the Cyclopædia of American Literature, a work of no authority, a statement with regard to the introduction of merino sheep into this country, which he should have known was not in accordance with facts, viz.: "The first merino sheep brought into the United States were imported by Chancellor Robert R. Livingston—a pair of each sex—in 1802. M. Delessert sent a few others soon after. Little attention, however, was paid to the subject, and it seems that about 1805 half-breeds were sold at a price below that of common sheep. Afterwards a larger importation was made by Col. Humphreys, who had been our minister to Spain and our Consul Jarvis; these were three hundred in number and arrived in 1810."

Why did not Goodrich, when his recollections failed, refer us to some reliable statement from Livingston, showing the month and day when his "*pair of each sex*" were introduced? Why did he not refer to Humphreys' works, published in New-York in 1804, and which are in all our libraries, and give us the true state of the case? There he would see in a dissertation on the merino sheep, dated Boston, August 25th, 1802, the following, which I extract from page 349: "Convinced that this race of sheep, of which *I believe not one* (surely he had an opportunity of knowing) had been brought to the United States until the importation by myself, might be introduced with great benefit to our country, I contracted with a person of the most respectable character, to deliver to me at Lisbon, one hundred, composed of twenty-five rams and seventy-five ewes, from one to two years old. They were conducted with proper passports across the country of Portugal by three Spanish shepherds, and escorted by a small guard of Portuguese soldiers. On the 10th of April last they were embarked in the Tagus, on board the ship *Perseverance*, of 250 tons, Caleb Coggeshall, master. In about fifty days twenty-one rams and seventy ewes were landed at Derby, in Connecticut, they having been shipped at New-York on board of a sloop destined to that river."

On page 356 is an engraved copy of a gold medal inscribed, "Presented by the Massachusetts Society for Promoting Agriculture, to the Hon. David Humphreys, Esq., late minister to the Court of Madrid, as a testimony of respect for his patriotic exertions in importing into New-England 100 of the merino breed of sheep from Spain, to improve the breed of that useful animal in his own country. 1802."

It is a sad reflection that our American Literature is so unreliable, and that we have so much gossip garnered up and *recollections* unauthenticated, published

in our Cyclopædias and filed away in our Historical Collections, to perplex and mislead our future historians.

ORIGIN OF HUNGARIAN GRASS IN THIS COUNTRY.

ED. PRAIRIE FARMER:—Numerous inquiries come to me about the Hungarian grass—so called—which has lately been introduced among our farmers, with such unparalleled success as a hay crop.

I thought, perhaps, it might be of interest to some of your numerous readers, to have a little sketch of the history, character, and qualities of this grass. The seed was brought into this country about three years ago by some Hungarian refugees, who were passing through to their settlement west of this place, and was highly recommended by them, and after two years' trial, became popular, and spread all over the country.

It is a species of *millet*, though different from any the farmers of this country are, or have been, acquainted with. The yield on our rich prairies is very heavy. The premium acre at our last country fair weighed eight tons and two hundred pounds of well cured hay. This grew on fresh hazel brush land; \$25 was the premium; other competitors came within a few hundred pounds of this weight. The average on our prairie lands is about five tons per acre. This grass is an annual, cultivated pretty much as oats, though somewhat later. Any time in May it does well here. One-third of a bushel per acre is about the proper quantity, covered very shallow, and harvested when the blades and head begin to turn yellow. Cutting time for this grass does not come on till the other harvest comes on.

As hay, it is of very nutritious quality, and stock eat it with avidity, particularly, when the seed is on. It has a very heavy head of seed, and yields from fifteen to twenty bushels per acre. Farmers tell me that horses will keep fat on it without any other grain, and do moderate work.—L. PHILLIPS, *in Prairie Farmer*.

EXTRACTS FROM A REPORT ON ASIATIC GOATS.

ACCEPTED AND PUBLISHED BY ORDER OF THE SOCIETY, AT THEIR ANNUAL MEETING, OCTOBER, 1857.

1. By a resolution of the SOUTHERN

CENTRAL AGRICULTURAL ASSOCIATION, of Georgia, we were appointed on a Committee to report on the Goats now in the possession of RICHARD PETERS, Esq., and, in compliance, present the following report as the result of our investigations:

2. Among all the domesticated animals introduced into our country, the Goat has hitherto been regarded as the least valuable. The several large breeds, such as the Scind, the Maltese, and the Swiss Goats, which were, from time to time, introduced as milking animals, were, after some time, neglected and considered as of no great value, in comparison with the Cow, and we are not aware that their milk is converted into cheese in any portion of our country. The hair was too coarse for manufacturing purposes, and the flesh was considered inferior to that of veal or mutton; hence the Goat was scarcely regarded as deserving of notice among the herds of the farmer.

The wisdom of Providence has, however, wisely so ordered it, that in all the species of animals intended for the use of man, distinct and permanent varieties are produced in different localities, which varieties, by proper attention, may be preserved for ages without change or deterioration. Breeds of Horses have been produced, adapted to the various necessities of man. The breeds that have originated from our domesticated horned cattle are equally varied and so organized as to minister to the wants of man in the different climates of the world.

3. The Sheep, which in many of its varieties is a coarse woolled animal, has assumed various forms and infinite varieties in the flavor of its mutton—in its fleece and in its adaptation either to cold, temperate or tropical climates. In Africa and the West Indies, breeds have sprung up, called by some Nubian Sheep, whose wool has become converted into a short, coarse glossy hair. In the mountains of Spain and in Saxony, varieties of the same species produce the finest wool. These Merino and Saxon Sheep, having become permanent breeds, have retained their fine fleece in our country, during successive generations.

4. The varieties of the Goat are equally numerous and equally varied in different countries. They are all of one species, the varieties mixing and multiplying with each other *ad infinitum*. They all claim as their origin, the common Goat, (*Capra hircus*),

which it is admitted by nearly all reliable naturalists, derives its parentage from the wild Goat, (*Capra ægagrus*), that still exists on the European Alps. Two individuals of this wild species lived for several years in the menagerie of Paris and exhibited all the manners of the common Goat. We have, on several occasions, seen herds of our common Goats, that had strayed away and become wild; one of these might for several years have been seen on that wonderful production of nature, the Stone Mountain of Georgia. They evidenced all the peculiarities ascribed to the wild Goats of the Alps. A herd of these Goats exists on the precipitous side of Ben Nevis, in Scotland, and are described as still numerous on the rocky island of Juan Fernandez, which the fertile imagination of Defoe, by the aid of the narrative of Selkirk, has invested with such a fascinating romance.

5. An animal so easily reared and domesticated, must have been given to man by a beneficent Providence for a more valuable purpose than that of its very sparing portion of milk, and its rather inferior flesh. The Creator, who gave to our first parents the soil, with the command to "till" it, has also given to the animals that accompany him in his migrations over the earth, an organization adapted to the production of improved and permanent varieties. These, when produced, it becomes the duty of man to increase and multiply. The individual who does this, by the application of his time, his scientific knowledge, his labors or his wealth, carries out the designs of a superintending Providence, and becomes a public benefactor. . . .

6. As we are obliged to regard the different breeds of animals by the names under which they are usually designated, we are not allowed to consider the Goats of Mr. Peters as the true cashmere. The two kinds of hair, with an under vest of delicate grayish wool which amounts only to two or three ounces on a well-grown animal—together with horns, not spiral, draw a broad line of separation between these probable crosses, and the far superior Goats of Mr. Peters.

7. This animal differs also from the Angora Goat, to which it has a nearer approach and from which this improved variety has probably descended. In the few specimens of the Angora Goat, which we saw many years ago in Europe, and in the figures now extant of this

variety—the ears compared with those of the Goats of Mr. Peters were smaller and less pendulous, the tail was much longer, the neck was covered with a mane of almost straight hair, reaching the shoulders and uniting with the beard under the chin—the body was larger and more Goat-like, and had less the appearance of the Sheep than the present variety. The fleece was equally white and glossy, but more than double as coarse. By what local name this breed of Goats, owned by Mr. Peters, is called in the East remains for some future naturalist, or traveler to determine. . . .

At present, we can only designate them by the general term, Asiatic Goats, or to be more definite, as the Davis Cashmere Goats, from the individual who introduced them.

8. It yet remains for us to consider the most important subject connected with this report. What benefit may our country be expected to derive from this breed of Goats? They were introduced into South Carolina in 1849, having been brought from Turkey, in Asia, by J. B. Davis, M. D. We examined these animals on their first arrival and pronounced them as destined to become a valuable acquisition to our country. We have since taken advantage of many opportunities, from time to time, of ascertaining their adaptedness to our climate, and saw them recently at the farm of Mr. Peters, at Calhoun. We are much gratified in stating that the result has far exceeded our most sanguine expectations. We will give the result of our inquiries and experience under several heads.

9. *Their Constitutional Characteristics and adaptedness to our Climate.*—

They appear to be remarkably well adapted to our climate, show no evidence of suffering, and do not pant like the Sheep during the warm weather of summer, when the thermometer often rises to 92°. In winter, when the thermometer sometimes sinks to zero, their woolly covering protects them from the cold, which they endure fully as well as do the Sheep. In the lower country of Carolina, during recent severe winters, we ascertained that many of the common Goats (as far as we could learn, one-half of the whole stock) perished from cold; the Asiatic Goats, however, did not appear to suffer the least inconvenience. Kids were dropped in a snow bank, at Mr. Peters' farm in February, and sustained no injury.

10. Three of these Goats were kept during winter and summer near Utica, in central New-York, and three others, with their descendants, have remained near Harper's Ferry, Virginia, since the autumn of 1854; all of them are doing well and have suffered no inconvenience either in winter or summer. This hardy disposition is imparted to the different grades, the half and three-quarter bloods, produced by an intermixture with the common Goat. They are all healthy. No disease has appeared among them, and there has not been a single sick goat or any death by disease among those originally imported, or in any of their descendants during the eight years since their introduction.

11. The oldest imported female is now at least ten, probably eleven years old—she produces a kid every year, and now has at her side a very fine female kid, dropped on the tenth of March last—she is in fine order and looks as though she would breed for several years. The females are abundantly furnished with milk, and are excellent mothers, never losing their kids, they being strong when dropped, and able to suck in a few moments, the mother remaining over and about them for forty-eight hours, and afterwards always keeping a careful watch. The half breed ewes inherit from the Davis Goats this peculiar trait of character, being the very reverse of the common Goats in this particular, the latter, especially when bred in large herds, care little for their young, who are often left to die for want of nourishment, when a few hours old.

12. *The Increase.*—This has been less than was at first anticipated. The fact of the common goat having two, and sometimes three young at a birth, and often two broods in a year, led many persons to the conclusion that this new variety of goat would be equally prolific. In this, experience has now undeceived us. The animal produces young but once in a year, and only one kid at a birth. Mr. Peters received from Dr. Davis in December, 1856, eight females and two males—three of the females having been imported. There were in this number three small kids that failed to breed until two years old. From these females, Mr. Peters has raised twenty-one, twelve of which proved to be males and nine females. Thus it appears that the constitution of this variety, is organized like that of the

wild goats (*Capreolus*) which produces but one young annually. As, however, it produces young when fifteen months old, and continues to breed until over ten years of age, taking into consideration the strength and hardihood of the kids, we may safely consider it as equal to the French Merino sheep in the rapidity with which a flock may be bred and increased. There is, however, another mode, both natural and certain, by which this variety can be increased very rapidly. To this we will direct attention hereafter.

13. *The preponderance of young males over females.*—It has frequently been remarked, that animals and poultry of various kinds brought from China and Western Asia, produce a much greater number of males than females. The only experiment we made was on the Shanghai fowl, which as long as we had an old male, produced, on an average, three or four male chickens to one female. Since we have kept young males only, the sexes in their descendants are about equal. It was at one time feared that the experiments in the introduction of these goats would be greatly retarded from the fact that they produced nearly all males. The following memorandum may be of some service in the future propagators of this goat:

14. In 1854, Dr. Davis used a two-year old buck to five ewes. The result was, two females and three males. In 1855, Mr. Peters used the old imported buck to eight ewes; the result was, two females and six males. In 1856, he used a buck kid of nine months old to six ewes; the result was four females to two males. In the same year he used the imported buck to two ewes; the product was one male and one female. It will be a matter of interest to the physiologist to become acquainted with the result of a further continuance of these experiments.

15. *Their Food.*—Like all species and varieties of Goats, they prefer weeds, briars and leaves, to grass. Mr. Peters informed us that during the summer months they are a decided benefit to his grass lands, by feeding on, and finally destroying, briars, weeds and bushes. They are especially fond of the leaves of young pines and cedars, both in summer and winter; the balsamic character of which is conducive to their health and thrift. During winter they should be fed like sheep, but do not require

much attention, except in snowy weather, as they are better able to shift for themselves than the sheep. Mr. Peters advises that during winter they should be divided into flocks of about one hundred, or less, as they butt each other at feeding time.

16. *Their Flesh as an article of Food.*

—We have never indulged in the extravagant luxury of feasting on a full-blooded animal of this variety, but we have on several occasions made a hearty meal on the quarter, half or three-quarter bloods, and all who dined in company pronounced the meat of the half-breed wethers superior to lamb, and at eighteen months old superior to mutton; the flavor approaches nearer to venison than to mutton. They remain fat nearly throughout the year, and in November are almost too fat for the table. We observed a great improvement in the progeny of the full bloods over their imported parents, both in size and fatness. The weight of the buck is given as one hundred and fifty-five pounds, that of the doe one hundred and two.

17. *Their liability to be destroyed by Dogs.*—If this animal was as liable to be killed by dogs as the common sheep, we would tremble for the perpetuity of the race in our country. We have often lamented that no laws were enacted and enforced to prevent worthless curs from depopulating the valuable sheep of our country. Many a once sanguine raiser of choice breeds of imported sheep, has been caused to sigh over his massacred flock, and then abandoned the raising of sheep in despair. A flock of sheep when pursued by dogs scatter in every direction, and fall an easy prey to their relentless, blood-thirsty foe; but when he approaches a herd of goats he finds them formed into a ring—the kids in the center and the old bucks in advance, exhibiting their formidable horns. No dog is bold enough to close in, but usually runs, barking, around the flock, thus attracting attention, and receiving the reward of his carnivorous designs. Mr. Peters informs us that he gave up the raising of sheep after having a dozen fine South-Downs killed by a pack of dogs, when they also destroyed four common ewe goats, but since there were no sheep on the farm to tempt the dogs, they have not come near the goats. Mr. Peters informs us that he has lost none of his goats, either of the pure breeds or the grades, by dogs. He further

remarked that with a large herd he had no trouble. They have a range of two or three miles over fields and through woods; they return every evening before sunset to their house, and in case of a shower of rain run to their shelter, even at the distance of several miles. He believes that a thousand or more would continue in fine condition during summer and fall, in one flock, on a large range, as they are free from disease, do not crowd together like sheep, or suffer from heat; they are very easily driven and managed, and do not run off and get lost.

18.—*The Fleece.*—The quantity sheared in April was from the bucks (aged) from five to seven pounds, and from the ewes from four to five pounds. Mr. Peters shears but once a year, but intends hereafter to shear the kids in September and again in April.

19. In regard to the fineness of the fleece, we find a microscopic examination of the hair of Asiatic goats, from the stock now owned by Mr. Peters, William P. Davenport, of Virginia, and Dr. Ambler, then of New-York, printed in the Patent Office Report for 1855, pp. 57–59. The examinations were made by George C. Schaffer, M. D. He says, “the degree of fineness is about that of the finest Saxony wool.” He gave also an outline from a “piece of shawl stuff imported from Calcutta, and said to be the finest ever brought into this country.” He adds, “it is gratifying, then, to be assured that the fleece may be raised in this country with a fineness closely approximating to that which it has ever attained in Asia under the most favorable circumstances.”

20. We have lying before us specimens from the fleeces of several young Asiatic goats, which we have compared with the finest wool of the merino sheep, and find the former not only equal in fineness, but of far greater length. It must, however, be observed, that young animals, at their first shearing only, present this remarkably fine fleece. In the old female it is a little coarser, and in the old males still more so. It is proposed by Mr. Peters to divide the fleeces of these goats at shearing time into classes, thus:

Kids under a year old..... No. 1.
Yearling ewes and yearling wethers. No. 2.
Yearling bucks, old ewes..... No. 3.
Aged bucks..... No. 4.

21. The fleeces of old ewes and year-

ling bucks would answer for cloth of a valuable texture. The fleece of the yearling is much finer than that of the old ewes; and that of the kid is fine enough for the very finest shawls, and ought to be very valuable. There is a large class of fabrics for which these fleeces are peculiarly adapted, viz: Camel and worsted goods and ladies' fabrics, as shallies, mouslin delaines, gentlemen's clothing for summer wear, hosiery, &c., promising a beauty, strength, durability, luster and permanency of color, far superior to the wool of the sheep or the alpaca. The goat's hair is known to receive and retain the most brilliant coloring, which the hair of the sheep and the alpaca has not the property of retaining.

22. From the characteristics exhibited by castrated animals, it is probable that the wool from a pure bred wether, altered when quite young, would not become coarser after the first year, and the quantity would certainly amount to eight or nine pounds. A member of our family has had in use for several years a pair of stockings from the wool of this goat, and they seem to be almost indestructible. Mr. Peters has also had an excellent cloth spun and woven from it.

23. *The results of Breeding with the common Goat.*—Familiar as we have been through a long life with the changes produced by crosses among varieties of domestic animals and poultry, there is one trait in these goats which is more strongly developed than in any other variety that we have ever known. We allude to the wonderful facility with which the young of the cross between the male of the Asiatic goat and the female of the common goat so readily assumes all the characteristics of the former. It is exceedingly difficult to change a breed that has become permanent in any of our domestic varieties, whether it be that of horses, cattle, sheep, or hogs, into another variety by the aid of the male of the latter. There is a tendency to run back into their original varieties, hence the objection to mixed breeds. But in the progeny of these Asiatic and common goats, nine-tenths of them exhibit the strongest tendency to adopt the characteristics of the male and to elevate themselves into the higher and nobler grade, as if ashamed of their coarse, dingy hair and musky aromatics, and desirous of washing out the odorous perfume, and putting

on the white livery of a more respectable race.

24. Mr. Peters has not bred any quarter-breeds. He made wethers of all his half-breed males of 1856, and sold his three-quarter blood rams. He now owns one hundred and fifty half-blood females, seventy-five three-quarter blood females, and six seven-eighths blood females. He has also four females three-quarters Asiatic and one-quarter Thibet shawl. There appears to be no improvement in this mixture with the shawl goat, over that produced by a union with the common goat; indeed, the product which we saw in Charleston from what was called the Cashmere and the Asiatic goat, was decidedly inferior.

The half-bloods, as we have stated, have an under coat of fine, downy wool, closely resembling and equal in quality and quantity to the fleece of the Thibet shawl goats imported into this country. The three-quarter breeds in midwinter show an under coat of greater quantity and length. In both grades, this under fur drops out in summer. The fifteen-sixteenths or one-sixteenth common goat resemble the Asiatic goat in quantity and quality of fleece, and size of carcass so closely that we found it impossible to distinguish them from the full bloods. Another advantage is likely to result from this admixture with the common goat: the half-blood females produce two kids at a birth, and the three-quarter blood females generally, although not always, two. Thus the breed may be rendered more prolific. We here perceive in how short a period of time our whole race of now almost worthless goats may be converted into a breed valuable both for its flesh and its wool.

25. *The regions of our country to which they are best adapted.*—There does not appear to be any part of the United States to which the constitution of this goat is not adapted. Damp climates, like England, where there are almost daily drizzling rains, are injurious. This animal scarcely needs water. We were informed by Mr. Peters, that three of them remained in a lot, feeding on weeds and grass, without any water during three months and keeping in fine order. Our whole country is warm in summer, and portions of it very cold in winter. If this goat is constitutionally adapted to brave the cold of the steppes of the eastern Caucasian, Himmaleh and Altaian Mountains, it would not

suffer (if fed in winter) in our coldest regions, and would thrive along all the sides of the Alleghany and Rocky Mountains. It has improved in the comparatively warm climate of Carolina. It would do well in the hilly country of the Carolinas and Georgia, many portions of which are now scarcely cultivated. The whole western country from Nebraska down to Western Texas and New-Mexico, may be rendered a feeding ground for this wool-bearing goat. The mountain regions of Virginia, North Carolina, Kentucky, and Tennessee, will be found admirably adapted to the raising of large flocks of these goats and their crosses. The wild growth of the mountain sides, with the native grasses of the rich valleys, will afford pasturage summer and winter at a trifling cost. The worn-out plantations and poor pine lands of the Carolinas and Georgia might be brought into requisition to supply meat for our markets, which, by many persons, would be preferred to venison. A single shepherd could guard a flock of several thousands, more especially if he called to his assistance the large shepherd's dog, from the Swiss Mountains. They would not only astonish the marauding wolf, but his prowling relative, the cur.

26. It is not impossible, that among the many varieties of goats existing in the far distant, and almost inaccessible regions of the Eastern world, some breeds may yet exist more valuable to our country than this, but at present we know of none that can be compared with it.

27. *What improvement can be made in this breed of Goats?*—Since it possesses the characteristics of all the other domesticated animals, we have reason to believe that, by judicious breeding, and devoting to this subject the same attention that breeders in England bestow on their horses, cattle, sheep, and swine, an equal number of improved varieties will be produced. We are at present unacquainted with any superior variety of Goat with which this might be crossed to improve the fineness of the wool. Improved individuals, however, spring up in these varieties themselves, without any foreign admixture, and by selecting these, and separating them from the common stock, we have at once a new breed, which soon becomes a permanent race. Let us in these matters follow the teachings of nature in all her departments. How were the varieties of Sea

Island cotton, of large rice, of prolific corn, wheat, &c., produced? A few stalks of these superior qualities were detected in the fields.

28. Thus far, it was the free gift of a beneficent Creator. Man, his agent, now selected and cultivated them separate from all others. Thus a valuable variety was obtained, that may, by proper care, be perpetuated. In the *Courrier des Etats Unis* we have a long and interesting account of a merino sheep in France, which, instead of wool, produced fine silken hair. The breed was perpetuated, and goes under the name of Cashmere sheep. At the "universal exhibition," in Paris, it was affirmed by the examiners of one of the shawls, made from this hair, that "they found this (as they named it) native Cashmere as soft and as brilliant as the imported, and that it was superior to the latter on account of its regularity of detail." We notice in a paper called the *Homestead*, published in Hartford, Connecticut, October 25, 1855, a translation of the article, and a note by the translator in which he states that in Barnwell, South Carolina, where merinoes had been acclimated, the proportion of these kinds of cashmere lambs were four out of five; supposing the flock to be degenerating yearly, and their fleece of no value, they were handed over to the butcher. In this way many a good gift of Providence is cast away on account of man's want of knowledge and attention.

29. *Some instructive lessons in Physiology and Natural History, are taught us in our experience in reference to the History of this Goat.*—Several learned writers, regarded as authority, have asserted that these eastern goats, which so much resemble sheep, were the products of the sheep and the goat; hence they asserted, that the views of naturalists in regard to species must be greatly modified. For the last ten or twelve years persons, in several parts of the United States, have been engaged in efforts to produce an offspring from an association of the sheep and the goat, which we do not consider improbable, but which, if the experiment had been attended with success, would, we are confident, have proved a hybrid incapable of propagation *inter se*. We have not yet heard of a single instance of offspring having been produced in the United States by these efforts. Mr. Peters, who, at our request, instituted some experiments by

carefully rearing up a young male sheep, with several young female goats, informs us that they copulated readily, but not a single young was produced. We here learn that God only is the creator of species, and has drawn a barrier of separation which can not be overcome. Varieties may be crossed and improved by breeding with other varieties of the same species, but can not be improved by crossing with other species, since these, if produced, would be hybrids and incapable of perpetuating a race.

30. Another writer was engaged in deciding on species by a microscopical examination of hair, and made the cashmere goat a new species from this test. If his supposed new species should not prove a cross, it may at least be seen now readily, the goats themselves are converting one species into another, and demolishing his whole visionary theory. Another theory, almost universally received by breeders, of stock since the days of "Walker's book on intermarriage"—on "in-and-in breeding," &c., is likely to receive a considerable shock, as these experiments with the goats, and especially with the Brahmin breed of cattle, are in progress. Our doctrine is that relationship and blood, and "in-and-in breeding," as it is termed, has nothing to do with the deterioration of animals, but that this deterioration is the result of the constitutions having been formed in the same localities, and that the descendants of a single pair, if separated, and removed to other localities where, from food and climate, the constitution has undergone a change, and are then brought together, they would continue healthy and prolific till the end of time. It is the settled opinion of physiologists that from the changes which the bodies of men and animals are daily undergoing, not a particle of the original body or the blood remains after seven years. Thus, the Irishman who proclaimed himself a native American on the strength of his having been seven years in America, was, in a physiological sense, not far out of the way.

31. Dr. Davis brought a small number of goats to this country, some of which were born after he left Turkey, they must therefore be very closely related. This will apply still more nearly to the Brahmin cattle which he imported at the same time. We saw the original pair at the Earl of Derby's at Knowesly, near Liverpool. There has been in-and-in

breeding ever since. There is not one animal of this variety in America that has not descended from this single pair, which, as far as we can recollect, were brother and sister. They are scattered throughout the West, breeding as fast as cattle can breed, and we are assured that they have improved rather than deteriorated. The water Buffaloes, imported at the same time by Dr. Davis, and now multiplying among themselves, but not mixing with our common cattle, are progressing in their own natural way to overturn an erroneous theory. Single pairs of turkeys, ducks, or common fowls will stock a farm-yard and in time spread over a whole district or State. A single pair of tame pigeons from the same nest, brother and sister, will soon fill the pigeon-house and give no evidence of degeneracy or sterility, and a single pair of fish will stock a fish-pond. Give them healthy constitutions, by an occasional change of food and localities, and there will be no danger of degeneracy by "in-and-in breeding." We give the results of our own experiments pursued through a period of fifty years. Let these goats, cattle, &c., be bred in different localities, and let there be an occasional interchange, and we feel assured that there will be no deterioration in consequence of their close relationship.

32. In conclusion, we may be asked, whether we are induced to believe that from the many good properties of this goat it will eventually supersede the sheep in husbandry? We answer, certainly not. A gift of Providence so valuable as the sheep, is not to be cast aside by any intruder on its rightful domains. The sheep and the goat have each their appropriate sphere in the economy of nature, and there are good properties in each that can not be supplanted by the other. The Creator, in his munificent benevolence, has given a limited number of valuable domestic animals and poultry, grains, fruits, and vegetables to man—all capable of producing varieties and of accompanying him in his migrations over the world. Each has its limits of usefulness, and one species can not intrude on the rights of the other. The maple tree of the North, and the sugar beet and Chinese sugar cane of more temperate climates, are admirable substitutes and of immense value. They are also well adapted to check the cupidity of speculators in syrups and sugars; but they can not in

the end demolish the great sweetner of the human palate of the world, the old tropical sugar cane. Cotton is at this time king, and is struggling, like Aaron's rod, to swallow all the lesser products of silk, flax and wool, but they are destined still to hold their place in the articles that minister to man's comfort. The sheep will not be depressed in the scale of man's valuable commodities—the goat will only be elevated to the standard to which it was designed to rise. Thus each product revolves in its own sphere like the lesser lights in the firmament, reflecting glory on their great Author and conferring benefits and blessings on him "who was created in his image and crowned with glory and honor." Respectfully submitted,

JOHN BACHMAN,

Chairman of the Committee.

We have published the foregoing, though of greater length than we like to present in a single article, for the sake of the valuable information it contains on an important subject, only regretting that our space does not allow us to give the full report, particularly the elaborate discussion of the committee, as to the breed of Mr. Peters' Goats. It would interest many of our readers had we made a place for it. But what we have published is perhaps of greater practical value. If more such reports as the one from which the above is taken were published—giving the results of patient, thorough examinations, it would be well for Agriculture.—Ed.

PUBLIC LANDS FOR AGRICULTURAL EDUCATION.

INCREDIBLE as it may seem, says a letter written from Washington, in the *N. Y. Evening Post*, there is actually a prospect that the old States are going to share in the distribution of public lands. Mr. Morrill, of Vermont, introduced a bill to-day providing for a distribution of public lands to the several States for the purpose of establishing agricultural colleges, giving twenty thousand acres for each presidential elector to every State. Those States which have no public lands within their boundaries will receive land scrip, which can not be located in any other State, but may be so located by

any individual purchasing the scrip. The interest of the fund must be devoted to the maintenance of agricultural colleges, and to nothing else. A limited amount can be appropriated to the purchase of model farms, but not to the erection of buildings. Every State which accepts the trust must bind itself to protect it against contingencies.

There are some four hundred colleges of this character in Europe, sustained and conducted wholly or in part by government, and a desire to follow their example seems to have awakened simultaneously in different States. The agricultural college of Michigan was the first one established on this continent, and is now in very successful and useful operation, with more than one hundred students. There have been some organized in New-York, Pennsylvania and Maryland, and will be opened in New-York and Pennsylvania next year. Virginia has also taken some steps towards establishing one in the Old Dominion.

A memorial was presented to the last Congress by Washburn, of Illinois, asking for an act like this of Mr. Morrill's. Michigan has asked for an appropriation of lands for her college.

Prodigal grants of lands have been made to railroads in the new States, and to those States themselves, but with the exception of the grant of lands to support the indigent insane, vetoed by Pierce, I believe that this bill is the only one for an equitable and comprehensive distribution to all the States in proportion to their population.

SUBSOIL PLOUGING.

BY AN OLD SUBSCRIBER.

Much has been said and written upon subsoil ploughing, yet not half enough. For few are so difficult to eradicate as prejudices which are wholly devoid of truth for their foundation. And until the erroneous opinion entertained about disturbing subsoil be extinguished, no one deserving the name, in these days, of an agriculturist, can believe that he has done all the good he can to advance the interests of his favorite pursuit, unless he has left no stone unturned to set people right upon the subject.

Deep tillage is the essence of high farm-

ing; high farming is the perfection of farming. And the reason is, that by high farming a greater return is obtained for the amount of capital and labor employed, than by any other means.

It matters not how much land is cultivated. That is not the question. Taken alone, the question which a farmer should ask is not, "how much land can I get?" but "how much land will the labor and capital I can command enable me to farm, so as to get the largest return for that capital and labor?"

The answer to the question should be divided into two parts. 1st. How to raise the greatest amount of crops. 2d. What those crops should be with reference to the quality of that land and the market that is *in the locality available*.

It is the first part of this answer only that we have to consider in this article. A man, a horse, or an ox can only perform a given amount of labor in a day. What that amount is, depends upon the physical powers of each. Any waste of expenditure of those powers is a loss of so much productive labor. This every farmer knows, and practises when he sends half a mile instead of ten miles for a load of manure. But the same thing, (that is a waste of labor,) occurs whenever more ground is gone over, or worked, whether with the plough or the harrow to raise a given crop, than is in truth needful to raise that crop. And every day's experience shows that *this* is a waste of labor that does not always occur in that light to the farmer. If a crop is got from two acres, that in quantity and quality *could* be got from one, not quite double, but nearly that amount of labor has been wasted in man and team in the production of it. Nor is that all; because, of course, one acre of the two would, if not so occupied, be available for another crop.

There is no doubt whatever, that for many crops (although not for all) the proportion of two to one is by no means exaggerated; or, that deep tillage alone,

will, in many instances, make that, and more than that, difference.

Many modifications of subsoil ploughing present themselves into which our limits will not permit us to enter; in some cases it may be expedient to bring up partially the subsoil to the surface; in other instances this would be inexpedient. The nature of the land must determine that question. But there is *no* land that will not be materially benefited by subsoil ploughing in one way or other, unless the bottom be a pure gravel of a very open texture. And even in such land injury would not be done, unless, indeed, the gravel were brought to the surface, which of course no farmer would dream of.

On a future occasion we may enter upon the positive advantages resulting from subsoiling, at present we have only space to advert to one or two of the objections sometimes urged against it.

It is erroneously supposed by some persons that in lands with a sandy bottom the practice of subsoiling renders them less capable of sustaining vegetable life during the drouths of summer.

A greater fallacy can not exist. The more compact soil is, the more easily will it conduct heat on the one hand, and the less water or moisture will it hold, on the other. A brick will heat through much more rapidly than a volume of dry earth or sand of equal size, and water will *never* conduct heat *downwards*.

When, therefore, a sandy subsoil is ploughed, the effect being simply to make it thereby more porous and open, the consequence is that it is in a condition mechanically to admit the roots of plants more readily; and also to place it in a condition more freely to admit moisture from the surface, or by capillary attraction from below, whilst its greater permeability to the passage of atmospheric air enables the vegetable particles distributed through it to take up in that passage a larger amount of ammonia from which one of the most essential aliments vegetable life is derived.

Again we have heard raised an opinion that the disturbance of subsoils consisting of hard pan is injurious, on the ground of its becoming intermixed with the surface soil. This objection is as untenable as the previous one. For, in the first place, such intermixture need not occur, (though in certain conditions and quantities *that* might do good,) whilst the benefits to be derived would be of a similar kind, but in yet greater amount, than in the case of the sandy land.

We purpose again to revert to a subject of such great importance to the farmer.

THE FARMER.

We have seldom found any thing more beautiful and true than the following, which we cut from the *New-York Ledger*. If there is any thing in it from which we dissent, it is, that the farmer can live without the mechanic, but not the mechanic without the farmer. This is true, if we reduce the word live to its lowest meaning. But in the sense of living well—prospering—the farmer needs the mechanic, not only to make his plow and reaper, and to build his house, but to create a market for his produce. The truth is, the farmer and the mechanic are very necessary to each other; and it is not easy to say which needs the other most.

What a sovereign man is the intelligent, industrious farmer. Within his own realm of earth, he wields a sceptre to which all must bend. The balance of the world's life and comfort he holds in his stalwart hand. Neither courts, nor camps, nor armies, nor fleets, can exist without his aid. He is the feeder—aye, and the garmenter, virtually—of the race. Cities spring from the traffic in the products of his industry. Commerce is born at his bequest. Of the State he is "first Estate." Lord of the land, no man has firmer hold of the essential title of nobility. And he need be no plodder because he is a farmer. The day is past when the soil tiller was confounded with the clod turned by his plow. The soil is his servitor; he smites it, and lo! the

harvest comes forth. The hoe and the sickle make him music braver than dulcimers, and sound the march of a triumph, grand as it is peaceful and blessed. But he is not forever in the furrow. For him are broadest fields of study—fairest fields of delight. For him are honors linked to beauties and wisdoms; for him, periods of communion and rapture, of which the birds, the flowers, the streams, the stars, and all wondrous things of the universe, may bear witness. A brave man art thou, wielder of the mallet and plane; and thou, skillful worker of webs; and thou, deviser of all machines whereby the labor of man's hand is speeded or abridged. But ye are all second to the farmer. He is master of the needfulest of toils, and the most serviceable products. He can live without you, but you can not exist for a day without him. Honor to the farmer; may his sphere widen and his stature be exalted. And honor to all honest toil, for of such are the fruits that form the crowning glories of the world.

A WORD TO FARMERS.

An exchange says, and we approve and adopt, the following:

Now, farmers, is the time to commence writing for your paper. Now the long winter evenings are drawing on, you have time to write, and your brother farmers have time to read your letters; do so then at once. Give us the fruits of your experience, in facts and facts only.

Short letters are best, so give us your ideas in as compact a form as possible. We should like to hear from some one upon sheep, swine, poultry—upon manures, the various methods of cultivation as at present in actual use in the Granite State.

SYRUP FROM THE SUGAR CANE.

MR. CHARLES KEENY, of Chester, in this county, presented us last week with a bottle of syrup manufactured from the Chinese Sugar Cane, which for clearness, deliciousness of taste, and excellent quality, far exceeds, in our judgment, the best Southern Sugar-House syrup. It has none of the raw, strong, cane taste peculiar to the latter article, but is rich in taste and color. Mr. Keeny informs us that he procured in the spring only *fifty cents' worth* of the seed, in-

tending simply to try its saccharine qualities as an experiment. The result far exceeds his anticipations. From that fifty cents' worth of seed he obtained *half a barrel* of delicious syrup, worth at least seventy-five cents per gallon. His method of manufacturing it is similar to that adopted in making syrup and sugar from the maple, by boiling, cleansing, skimming, etc. We regard Mr. Keeny's experiment as *entirely successful*, and if any one wishes to satisfy himself of the truth of the above statement, let him call at our office and *taste* for himself.—*Jeffersonian Democrat*.

ON STEAM PLOUGHING.

BY P. MANNY.

WADAM'S GROVE, NOV. 30, 1857.

MESSRS. EDITORS—DEAR SIR:—I notice an article in your November number, headed Steam Plough, stating that Mr. Bronson Murray, of Illinois, has offered \$50,000 for the best practical steam plough. This, I think, is a mistake; and, as I have reason to believe, the proposition he did make some time ago to try to raise that amount of money as a bonus for the best invention, is likely to prove an injurious stimulant to our inventive genius, in as much as it will no doubt induce a number of our hard-working, industrious mechanics to spend too much of their time on that which I believe never will benefit anybody. I am an inventor myself, and my success may clearly be traced back to the starting point, which is this: In the first place ascertain as clearly as possible whether such an invention will prove profitable and beneficial to the public. As I have investigated many years ago the practicability of steam ploughing, I will state the result of my investigation. In the first place its cost will be \$4,000 or \$5,000 at least, the interest on which in our State will be \$500 a year. The wages of two men to run it three months, which is about the average time of plowing in a year, at \$1 50 per day each, added to the interest, makes \$734. Allowing it to plough 10 acres per day,

this would be 780 acres, leaving out the cost of fuel and repairs, and the expense is nearly \$1 per acre. Except the prairie sod, we can hire our land ploughed for 75 cents per acre; but there is a more profitable way than this, which we shall some day universally adopt;—stock our farms as they should be with cattle, and while they are growing up into bullocks, they will not only do all our ploughing, but will give us about 25 per cent. in their growth. Now the difference between ploughing with our steers and gaining 25 per cent. in their growth, or ploughing with a steam engine and losing 10 per cent. on its cost, is so great that I could never make myself believe that any sane man would adopt steam ploughing on our prairie farms, where we have such abundant means, for raising stock. If steam ploughing proves to be profitable any where, it must be among our eastern farmers where their farms are too small to keep stock sufficient for ploughing.

The writer of the above is a veteran in a good cause. He has done well in the reaper and mower line, and we believe he is now doing better and better every year—making really valuable improvements. But he has failed to prove to our apprehension that some one else, or even he himself, may not yet do a greater thing for agriculture in the way of steam ploughing. We have an idea that his objections to it are answerable, but we leave them to some of our correspondents, only stating our belief that the time is not far distant when steam ploughs will be manufactured for less money, and will plough more land per day than he estimates.—Ed.

AUTUMNAL CULTIVATION—AS A MEANS FOR GOOD FARMING.

We could not subscribe to every word of the following, from the (London) *Farmers' Magazine*, but we believe that it is, in the main, true and important, and that

very much is gained by the fall cultivation of soils, especially those of a heavy nature, and we very much doubt whether the cultivation of even light sandy soils, in autumn, is as injurious as has been sometimes represented. Will some of our readers give us the results of their experience in fall cultivation, noting particularly the character of the soil?

It is highly necessary we should possess clear and distinct views upon every subject connected with the practice of agriculture; and we again revert to the system of autumnal cultivation, because we feel it to be a subject of vast importance to the farming interest of the kingdom at large, while it is our observation and conviction that the practice is neither generally understood nor sufficiently appreciated. It is certainly but partially and imperfectly carried out, both as to efficiency and in extent.

We do not presume to the position of tutors in agriculture; but we do desire to see *more* of the autumnal fallow, and *less* of the curse of creation in the shape of the thorn and the thistle, and the commingled mass of grass and rubbish which feast upon and impoverish the soil. We want good farming to be general; we want bad farming to be the exception. We desire to see comparative garden culture abounding; and well may you who have already attained to it plume yourselves at your will and at your pleasure upon your superior skill and surpassing judgment; but where weeds exist and abound, there is other and more important work to be done. Weeds and self-laudation and self-satisfaction will not do; they are our admitted enemies; they are as a stealthy foe, and as insidious robbers. Therefore Extirpation! must be our watchword and our cry, whilst the autumn system of fallow must be our practice. It is unquestionably the cheapest and best means by which to secure and maintain a clean occupation, and it has but to be tried in practice to be appreciated; and, when appreciated, it will be considered worthy of strenuous efforts to be carried out generally as a common system of culture. The time is coming when it must be viewed not as secondary, but of primary importance; for the future will be far too competitive an age for the farmer manacled and tied with the fetters of his couch to stand a chance, or find either existence or breathing-space

in the straining exertions of the hard-fought race for profit. He *must* be distanced. Extra weight will tell. If clean farming won't pay, foul-farming can't; and the landed proprietors are gradually learning the worth of a good tenant, whilst they reject and eject the bad.

Autumn cultivation has for its main object the eradication and destruction of all the perennial weeds which infest the soil; and it is to this end every operation should, in the first instance, be fully directed. The annuals are but secondary; therefore for couch and so forth it is highly necessary to cultivate deeply, and, whether with Biddeh's, Bentall's or Coleman's scarifiers, or the common plow, it is essential to thoroughly break up the soil to its accustomed depth. Above all things, it is requisite to be careful that no couch remains in the solid soil beneath the passage for the share. We repeat, the soil must be broken to the depth at which it is usually plowed, or perfect cleanness will not be effected. We know that this is often no light task, and a master's eye must watch the progress of the work, or it will be but partially and inefficiently performed. The truth is, every horseman has his favorite "Sharper" or "Pepper" or "Boxer," and these animals, in his estimation, are of far more consequence than good tillage, therefore spare them he will if possible. Besides, the weather is hot, the flies sharp, the land hard, and Tom or Jem will ease the depth a little too much, or swear point-blank it can't be done at all. Now comes the master's firmness and sound judgment to dictate what can and what shall be done, and how. We have seen many a complaisant man foiled and overruled by the plausibility or perversity of his men, but almost any land can be properly broken up by the use of the proper means; and, if the value of autumn cultivation were really understood, the country at large would present a very different appearance at the present time. Truly the system is on the increase; but how many a set of horses have we of late, and especially at the commencement of harvest, idly swinging their tails in some rough pasture, under the shade of some old oak or ash, instead of being first fed with a good feed of corn, (which they require,) and then attached to an effective implement for the cultivation of some neighboring stubble—which by-the-bye, contained "such good sheep-fed," "such laying for birds," and, in short, such an

amount of deviltry as would beggar description, and even defy spring-cleansing, with all its operations of many plowings and endless harrowings. To be brief, two or three scarifyings or stirrings under a scorching sun, in August, would have been sufficient to destroy the thousand-and-one enemies which have flourished through a course of years, and still flourish on without molestation; and the horses would have been far better occupied than in doing nothing. Although every county is the best-farmed in the kingdom, according to local tradition and agricultural banter, yet every county needs to be much better farmed than it is. We are sickened at the sight of foul stubbles; and so infinite are the advantages arising from fallowing in the autumn, that it is both *the* system and *the* season we can not afford to neglect. We allow there are difficulties to overcome in the cultivation of a wide breadth at so busy a time of the year; but to how many minds do any innovations present insurmountable obstacles! We do not say this in the spirit of condemnation or complaint; for many even sensible men do not comprehend, or appreciate, at first sight, the benefit likely to arise from any new but sound practices. Further, we need to be cautious, and there is no reason why autumn cultivation should be swallowed wholesale. If the utility to arise is unappreciated, the trouble of its accomplishment will appear incompatible with the advantages accruing—consequently, by such the task will not be undertaken, and thus men may or may not live on with a mental hedge of thorns to all progress, content to swim with the tide, because slow to appreciate, and far too local in education and in knowledge. Realize the value, and arrange the work of the farm, that some cultivation at least can be done. We prepare for, and plant our wheat crop; why not eradicate and destroy our weed crop? The one is as important as the other, and the latter should be considered as primary to the former.

We have advocated deep autumnal cultivation for the destruction of the perennials, and, as time is an important consideration, the rubbish must be kept at the surface for exposure to the sun's rays. It may not be buried snug in the soil, to be shaded from the influence of the sun, but have the couch out for public exposure and the bright noon of day. Presuming a shower of rain to fall, how

beautifully, by harrowing, the clods come to powder and the couch to the surface, to be baked by the sun, or burned in a series of bonfires!

With fineness of tilth and moisture of soil, now comes the turn for the vegetation of the annuals, and an abundant crop of young weeds present themselves. Thus perennials and annuals are alike destroyed, and the land freed for the growth of any desirable produce. Manure, too, can now be applied with unabated success; the expense of hoeing, in future, is reduced; and a crop can be grown which is worthy of the soil and the skill of the cultivator.

We know of men this year, who, just previous to harvest, broke up and perfectly fallowed their clover-stubbles. This was after once mowing the crop and feeding the after-growth, and only upon such lands where the succeeding wheat-plant is usually subject to wireworm, and to be root-fallen. They have, further, since cultivated their hundred acres of corn-stubbles deeply, and with full success. And nothing but the wetness of September has prevented much greater progress.

As a finale, cultivate deeply, keep the weeds at the surface, avail yourselves of your existing horse-power, and you will find autumnal cultivation much to your individual profit, and to the good of the country at large.

FROM EDWARD EVERETT'S ADDRESS AT BUFFALO.

In the first place, the earth which is to be cultivated instead of being either a uniform or a homogeneous mass, is made up of a variety of materials, differing in different places, and possessing different chemical and agricultural properties and qualities. A few of these elements, and especially clay, lime and sand, predominate, usually intermixed to some extent by nature, and capable of being, so mingled and treated by art, as to produce a vastly increased fertility. The late Lord Leicester in England, better known as Mr. Coke, first carried out this idea on a large scale, and more than doubled the productive value of his great estates in Norfolk by claying his light soils. To conduct operations of this kind, some knowledge of geology, minerology and chemistry, is required. The enrichment of the earth by decaying animal and vegetable substances, is

the most familiar operation perhaps in husbandry; but it is only since its scientific principles have been explored by Davy and Liebig, that the great practical improvements in this branch of agriculture have taken place. It is true that the almost boundless natural fertility of the soil supersedes for the present, in some parts of our country, the importance of artificial enrichment. I inquired last spring of a friend living in a region of this kind, on the banks of the Ohio, how they contrived to *get rid* of the accumulation of the farm-yard, (a strange question it will seem to farmers in this part of the world,) and he answered, "By carting it down to the river's side, and emptying it into the stream." In another portion of the western country, where I had seen hemp growing vigorously about thirty years ago, I found that wheat was now the prevailing crop. I was informed that the land was originally so rich as to be adapted only for hemp, but had now become poor enough for wheat.

These, however, are not instances of a permanent and normal condition of things. In the greater part of the Union, especially in those portions which have been for some time under cultivation, the annual exhaustion must be restored by the annual renovation of the soil. To accomplish this object, of late years every branch of science, every resource of the laboratory, every kingdom of nature, has been placed under contribution. Battle-fields have been dug over for the bones of their victims; geology has furnished lime, gypsum and marl; commerce has explored the remotest seas for guano, and has called loudly on diplomacy to assist her efforts; chemistry has been tasked for the production of compounds, which, in the progress of science, may supercede those of animal or vegetable origin which are prepared by nature. The nutritive principles developed by decaying animal and vegetable organization are universally diffused throughout the material world, and the problem to be solved is to produce them artificially on a large scale, cheap enough for general use. In the mean time, the most simple and familiar processes of enrichment, with the aid of mechanical power and a moderate application of capital, are producing the most astonishing results. The success which has attended Mr. Mechi's operations in England is familiar to us all. By the application of

natural fertilizing liquids, sprinkled by a steam engine over his fields, they have been made to produce, it is said, seven annual crops of heavy grass.

Simple water is one of the most effectual fertilizers, and in some countries irrigation, carried on with no moderate degree of hydraulic skill, is the basis of their husbandry. While walking, on one occasion, with the late Lord Ashburton, in his delightful grounds in Hampshire, just before he departed on his special mission to this country, in one of the intervals of our earnest conference on the North-eastern Boundary, he told me that he had expended ten thousand pounds sterling in conducting round his fields the waters of the little river—the Itchen, I think, that flows through the property, and that it was money well laid out. Pardon me the digression of a moment to say that I could not but honor the disinterested patriotism which led this kind-hearted, upright and intelligent man, at an advanced age, (with nothing on earth to gain or desire, and with everything of reputation to risk,) to leave the earthly paradise in which I saw him, and to cross the Atlantic in the winter, in a sailing vessel, (his voyage was of fifty-one days,) to do his part in adjusting a controversy which had seriously menaced the peace of the two countries. The famous water-meadows of the Duke of Portland, at Clipstone, have been often described, where the same operations have been performed on a still more extensive scale. Mr. Colman's interesting volumes on European agriculture contain accounts of other works of this kind, but I confine myself to those which have fallen under my own observation.

Nor are these the only operations in which agriculture calls for the aid of well-instructed skill. That moisture, which in moderation is the great vehicle of vegetable nourishment, may exist in excess. Vast tracts of land are lost to husbandry in this country, which might be reclaimed by dykes and embankments, or become fertile by drainage. Land is yet too abundant and cheap in America to admit of great expenditures in this way, except in very limited localities; but the time will no doubt come when in the populous portions of the country, especially in the neighborhood of large cities, the sunken marshes which now stretch along our coast will be reclaimed from the ocean, as in Hol-

land; and thousands of acres in the interior, now given up to alder swamps and cranberry meadows, be clothed with grass and corn. There are few farms of any size in the country, which do not contain waste spots of this kind—the harbor of turtles, frogs and serpents—which might be brought at moderate expense and some hydraulic skill, into cultivation. Other extensive tracts are awaiting the time when the increase of population and the enhanced value of land will bear the expense of costly operations in engineering. The marshes on the sea-coast of New-England, New-York and New-Jersey, probably exceed in the aggregate the superficies of the Kingdom of the Netherlands, the greater part of which has been redeemed by artificial means from the ocean—a considerable tract, covered by the Lake of Harlem, within a few years. Now, if we could only add a new territory to the Union, as large as the Kingdom of the Netherlands, by the peaceful operations of husbandry, it would be a species of *annexation* to which I for one should make no objection. All the resources of science have been called into operation in that country, under the direction of a separate Department of the Government, to sustain the hydraulic works which protect it from the ocean. The state of things is similar in the fens of Lincolnshire and Bedfordshire. All the spare revenues of the Grand Duke of Tuscany have been appropriated for years to the improvement of the low grounds on the coast of that country, once the abode of the powerful Etruscan Confederacy, which ruled Italy before the ascendancy of the Romans, now, and for ages past, a malarious, uninhabitable waste.

But when science and art have done their best for the preparation of the soil, they have but commenced their operations in the lowest department of agriculture. They have dealt, thus far, only with what we call lifeless nature, though I apply that word with reluctance to the genial bosom of our mother earth, from which everything that germinates draws its life and appropriate nourishment. Still, however, we take a great step upward, when, in pursuing the operations of husbandry, we ascend from mineral and inorganic substances to vegetable organization. We now enter a new world of agricultural research; the mysteries of assimilation, growth and decay; of seed time and harvest; the life, the

death, and the reproduction of the vegetable world. Here we still need the light of science, but rather to explore and reveal than to imitate the operations of nature. The skilful agricultural chemist can mingle soils and compound fertilizing phosphates; but with all his apparatus and all his reagents, it is beyond his power to fabricate the humblest leaf. He can give you, to the thousandth part of a grain, the component elements of wheat—he can mingle those elements in due proportion in his laboratory—but to manufacture a single kernel, endowed with living reproductive power, is as much beyond his skill as to create a world.

Every topic to which I have thus hastily alluded, in connection with the vegetable kingdoms of nature, suggests inquiry for the naturalist, in some department of his studies, and forms the subject of regular courses of instruction in some of the European universities, especially those in Germany.

The insects and vermin injurious to vegetation present another curious and difficult path of inquiry. A very considerable part of every crop of grain and fruit is planted, not for the mouths of our children, but for the fly, the curculio, and the canker-worm, or some other of these pests of husbandry. Science has done something, and will no doubt do more, to alleviate the plague. It has already taught us not to wage equal war on the wheat fly and the parasite which preys upon it; and it will, perhaps, eventually persuade those who need the lesson, that a few peas and cherries are well bestowed by way of dessert on the cheerful little warblers who turn our gardens into concert-rooms, and do so much to aid us in the warfare against the grubs and caterpillars which form their principal meal.

Agriculture is looking anxiously to science for information on the nature and remedies of the formidable disease which has of late years destroyed so large a portion of the potato crop. The naturalist who shall solve that problem will stand high among the benefactors of his race.

Closely connected with this department of agriculture is another, in which the modern arts have made great progress, and in which inventive sagacity is still dilligently and successfully employed. I refer to agricultural machinery—improved implements of husbandry.

This is a field in which the creative powers of the mind seem to be at work with an activity never before equalled, and which is likely to produce more important results in this than in any other country. The supply of labor in the United States has not kept pace with the demand, as it can rarely do in a new country, where strong temptations exist for enterprising attempt in every branch of industry. This state of things has furnished very powerful inducements for the introduction of labor-saving machinery and implements, and the proverbial ingenuity of our countrymen has been turned with great success in that direction. Your exhibition grounds fully justify this remark. Even the good old plow has become almost a new machine in its various novel forms; and other implements of the most ingenious contrivance and efficient action have been invented. The cultivator, the horse-rake, the mowing-machine, the reaper, and the threshing-machine, are daily coming into use in Europe and America, and producing the most important economy of labor. Successful attempts are making to work them by steam. It was said long ago of the cotton-gin, by Mr. Justice Johnson, of the Supreme Court of the United States, that it had doubled the value of the lands in the cotton-growing region; and the mowing-machine, the reaper, and the threshing-machine are destined, almost to the same extent, to alleviate the severest labors of the farmer's year. The fame of the reaper is not confined to this hemisphere. At the great exhibition of the Industry of all Nations, in London, in 1851, it mainly contributed to enable American art to hold up her head in the face of the civilized world.

But there is still another department of agriculture which opens the door to research of a higher order, and deals with finer elements—I mean that which regards the domestic animals attached to the service of man, and which are of such inestimable importance as the direct partners of his labors, as furnishing one of the great articles of his food, and as a principal resource for restoring the exhausted fertility of the soil. In the remotest ages of antiquity, into which the torch of history throws not the faintest gleam of light, a small number, selected from the all but numberless races of the lower animals, were adopted by domestication into the family of man.

So skillful and exhaustive was this selection that 3,000 years of experience, during which Europe and America have been settled by civilized races of men, have not added to the number. It is somewhat humbling to the pride of our rational nature to consider how much of our civilization rests on this partnership—how helpless we should be, deprived of the horse, the ox, the cow, the sheep, the swine, the goat, the ass, the reindeer, the dog, the cat, and the various kinds of poultry. In the warmer regions this list is enlarged by the lama, the elephant, and the camel—the latter of which, it is not unlikely, will be extensively introduced in our own southern region.

It may be said of this subject, as of that to which I have already alluded, that it is a science of itself. No branch of husbandry has, within the last century, engaged more of the attention of farmers, theoretical and practical, than the improvement of the breed of domestic animals, and in none perhaps has the attention thus bestowed been better repaid. By judicious selection and mixtures of the parent stock, and by intelligence and care in the training and nourishing of the young animals, the improved breeds of the present day differ probably almost as much from their predecessors a hundred years ago, as we may suppose the entire races of domesticated animals do from the wild stocks from which they are descended.

There is no reason to suppose that the utmost limit of improvement has been reached in this direction. Deriving our improved animals as we generally do from Europe—that is, from a climate differing materially from our own—it is not unlikely that, in the lapse of time, experience will lead to the production of a class of animals, better adapted to the peculiarities of our seasons than any of the transatlantic varieties as they now exist. The bare repetition of the words draft, speed, endurance, meat, milk, butter, cheese, and wool, will suggest the vast importance of continued experiments, on this subject, guided by all the lights of physiological science.

Among the most prominent *desiderata*, in what may be called animal husbandry, may be mentioned an improved state of veterinary science in this country. While the anatomy of the lower animals is substantially the same as man's, their treatment when diseased or overtaken by accidents is left almost

wholly to uneducated empiricism. It rarely, I may say, never happens that the substantial farmer has not considerable property invested in live stock, to say nothing of the personal attachment he often feels for some of his favorites—horse, or cow, or dog. But when their frames, as delicately organized and as sensitive as our own, are attacked by disease, or they meet with a serious accident, they are of necessity in most parts of the country committed to the care of persons wholly ignorant of anatomy and physiology, or imperfectly acquainted with them, and whose skill is comprehended in a few rude traditional operations and nostrums. There are few of us, I suppose, who have not had some painful experience on this subject, both in our pockets and our feelings. The want of veterinary institutions, and of a class of well-educated practitioners, is yet to be supplied.

CATTLE SHOW IN THE METROPOLIS.

An exhibition of stall and grass fed fat cattle, sheep, swine, and poultry was opened at the Crystal Palace yesterday morning, under the auspices of the American Institute. The variety and size of the exhibition was by no means as extensive as might have been expected, although it is very creditable, and comprises many very fine and valuable specimens of cattle, sheep and swine, among the most prominent of which are the following:

One pair of four year old Durham steers, owned by Charles G. Teed, at Somers, Westchester county, and weighing together 4,580 pounds. These were of the Durham breed, very fine and fat, and drew the first premium on grass fed cattle.

A remarkably fine pair of Durham steers, 4 years old, owned by Thomas Wheeler, South Dover, Dutchess county, weighed 4,480 lbs, and drew the second premium on grass fed cattle. Also a very fine pair of Durham steers, of four years, owned by T. Van Alstyne, Ghent, Columbia Co., N. Y. These drew

a third, or special premium on grass fed cattle.

A very handsome Devon bull, dark brown, weighing about 1,200 or 1,400 pounds, very fat, broad and sleek. This animal presented a somewhat novel appearance, being chained to a post by means of a large ring through his nose; notwithstanding which he appeared very restless and desirous of paying his affectionate regards to some of the bystanders who were, ever and anon, attempting to stroke and caress him. This animal is owned in White Plains, Westchester county.

A pair of grade Devon oxen, stall fed and very fat, owned by Levi Van Vliet, Clinton, Dutchess Co., N. Y., but sold during the exhibition to Col. Devoe, of this city. The price we do not remember precisely. It was between \$300 and \$400; we think \$337. These were not remarkably large, but were very fat. Weight, 4,600 lbs. We should think them to be half Devon and half our native red cattle, which by the way, are good cattle, as good, in our humble opinion, for dairy and working purposes as any other, and pretty good for beef. If bred and cared for in the best manner, they would become a splendid race of cattle in a few generations. After so much haphazard breeding, so much neglect in rearing, and after killing so many of the fine calves for veal, and raising the inferior, the only wonder is that they are as good as we find them, more or less, all over the country. Mr. Van Vliet's, subsequently Col. Devoe's cattle, drew the first premium on stall fed oxen.

Two Durham heifers, from West Farms, very fine.

One pair of very fat oxen weighing in the neighborhood of 4,000 pounds, belonging in Newcastle, Westchester county. Very fine.

Seventy-two Nankin sheep, the original stock consisting of three ewes, were imported from China by Capt. Smith, twenty months ago, and have since that

period increased to the present number, seventy-two. Among this lot are three very young lambs, apparently not over a week old. The flesh of these sheep, it is said, is far superior in sweetness to any other kind of mutton, and brings a much higher price in market; while the wool is said to be much coarser. They are easily designated from the common sheep of this country by the formation of their head and ears. This lot is, as a general thing, in good condition, and made a very fine appearance. They are owned in Pelham, Ulster county.

Ten very fine and large fat lambs, from Carmel, Putnam county.

Five Suffolk pigs and one Hampshire hog, from Sixty-fifth street, this city. Very fat and fine.

A beautiful collection of imported pigeons from various portions of the globe, by Messrs. Howland & Aspinwall.

One four year old Maltese jack, in fine trim. Owned in this city.

The above list comprises but a small portion of each kind of animal named, on exhibition; but was selected from the number merely to serve as specimens.

The number of visitors yesterday was very limited, and if the exhibition is not better patronized during the remaining days which it is to be continued, the American Institute will not reap a very handsome harvest from the enterprise. In addition to the cattle show, exhibitors who have machinery in the Palace, keep the same in motion throughout the day.

EXTRACT FROM AN ADDRESS,

BY GEN. H. K. OLIVER,

At the State Fair, Concord, N. H.

I MAKE a high estimate of agriculture from a long and deeply seated conviction that reason as we may about other arts, either in reference to their antiquity, their universality, their value, or their necessity, we are clearly compelled to revert to agriculture, not only as the fount of their existence, but as the sustenance of their continued vitality, the liberal feed root of all the branches, and all the fruit of the tree of human life.

We are compelled to concede that it is the great and only enduring and reliable fount of national greatness and prosperity; that the whole pulse of commercial and monetary operations is affected by the healthful and unhealthful beatings of the agricultural heart; that stocks and prices in the market and on "change," rise and fall as the agricultural tide ebbs and flows; that, as come the crops, either plenteous or meagre, so darts or limps the gigantic business of the busy world; that it prevents human poverty, human misery, and human wickedness; that it has a positive favorable influence upon private and public morals; that it is pre-eminently propitious in securing habits of virtue and temperance in all things, in individuals, and through them, thus purified, operates with equally good results in purifying the public mind, and in establishing the pillars of the State upon the steadfast foundation of persistent, unbending virtue; that it is a faithful and powerful auxiliary of Christianity itself, in generating civilization, and nourishing it into vigorous life; civilization itself being, in its matured growth, enabled to refund its great debt by inventing new implements of labor, and, by their aid, putting into operation new modes of tillage.

There are certain facts in relation to agriculture so plainly manifest, that the most blear-eyed observer can not fail to perceive them. In China, a close and perfect cultivation keeps alive all of civilization that its teeming millions enjoy. There agriculture has been honored and encouraged beyond every other pursuit, and the culture of the land and the nature of its produce, are such as to afford the largest returns to the labor employed, while the ruined husbandry of Central Asia has opened the flood-gates and let in upon its people a deluge of barbarism. The ancient high culture of Sicily made it the exhaustless granary of Rome, and carried its people by rapid advances to civilization, riches, and refinement. The husbandry of ancient Britain, once not adequate even to the wants of its own sparse population, made it, under the teachings of its Roman masters, the surcharged storehouse, whence issued the food of uncultivated Germany, while, at the same time, it softened the manners and refined the hearts of its own rude people. And when, under the Saxon sway, agricul-

ture declined to its lowest degradation, and the mass of the people became degraded with it, they only began to improve with the restoration of the art, a restoration due to the influence of the monks in introducing into England the better agriculture of Normandy. The northern sea pirates of the 9th century, those savage and remorseless marine vagabonds, who, in the year 876, invaded and subdued Normandy, became, when driven to the culture of the soil by their leader Rollo, a comparatively civilized gentle race, and so successful in the art of tillage, that their systems were acknowledged to be the best of Europe, and were introduced into England, upon the lands of the English monasteries, making them to be the most fertile in the Island, and laying the foundation of the attachment of the English to country life, and consequent future success of English agriculture; a success which is now to be seen in the general neatness, exactness, and thoroughness which is to be met with all over the kingdom, and in the abundant yield of her well tilled acres. And can any one presume to say that the high civilization of England has no connection with the high culture of her soil, and that the two have not made their successful march with equal step?

It is among the most propitious circumstances for agriculture in every nation, that it has addicted itself to it with the devotion that agriculture may legitimately demand, that it has enlisted in its behalf, not only the best mechanical skill of its earnest devotees and artizans, but that it has attracted in an eminent degree, the friendship and the service of many of the noblest intellects with which God has endowed man. Head has come in, in the plenitude of its strength, to advise and to operate with hand. Had the art always been under the pasturage of unlettered men, so unlettered that we may justly look upon them as mere agricultural drudges, there would be danger that beaten paths only would be pursued, and that the farmer, like the toiler in a treadmill, would be always returning upon his own footsteps and never be achieving any progress. They who do so, I am sorry to believe, yet exist, though in diminished and diminishing numbers. May this remnant not be saved nor abide long in the land. Cultivated minds originate new ideas; they try experiments, and all experi-

ments can not be fruitless of good issue. Weary years may pass away in the process of research and investigation. God, who made the soil with all its cunning complicities and wonders, moves in a mysterious way, and his ways are often past finding out. Men may grope, and falter, and stumble in the dark scrutiny of experiment, and the uncertainty of practice, occasionally hitting the mark, and perhaps more frequently missing the truth. But mind, always superior to mere matter, always able to cope with and subdue it, comes in to illumine the darkness, and to supply the thread that shall guide through the tortuous labyrinth—mind, thinking, reasoning, inquisitive, prying, searching, obstinate, unyielding, indefatigable, investigating mind, comes in and questions, and cross-questions, and examines and re-examines, and “puts that and that together,” and compares, and hammers away, and thrusts itself forward after the truth and facts, till at last the weary dark gives way, far up in the east, slowly open the gates of morn, the dim dawn appears, the ruddier glow of the orient flashes up, and now, behold, up comes the gorgeous sun, great lustrous giant of the skies, and all is light and day, and the truth is grasped. Everybody who has taken the smallest pains to find out the facts, knows and testifies, willingly or unwillingly, that agriculture has advanced just in proportion as mind, mind as developed in men of intellect, intelligence, education and reflection, has given attention to it. The condition of English agriculture, as an obvious and suggestive example, bears ample testimony to the influence of mind upon it. Let us see if this is not so. In the middle of the 14th century, the produce of a farm, in the parish of Hampstead, in Suffolk, was at the rate of

8½ bushels of wheat per acre.			
16	“	barley	“
5	“	oats	“
8	“	peas	“

The farm contained 600 acres of land, of which 321 were under tillage. Land rented from \$2 75 to \$4 50 per acre per annum, and in one case, 18 acres were let on a lease of 80 years, at \$1 80 per acre per annum. In the latter part of the 16th century, under the teachings of the monks, the sole educated men of

the times, the monastery lands yielding at the rate of

20	bushels of wheat,
32	" barley,
40	" oats,
40	" peas,

a very respectable yield. Let us pursue this point a little further. The English agricultural community is divided into three classes, the laborers, the farmers, and the great land owners. Of the undesirable condition of the first named class, I do not now stop to speak. The middle class, the farmers, are not generally owners of the land they till. They hire, on long lease, of the last named class, who own land by thousands and tens of thousands of acres. Nor are they generally actual workers on the land they hire. If one of them have no more than a hundred acres, he seldom or never handles a tool. He supervises—he controls—he directs—he bosses the farm laborers whom he employs. His head directs their hands. His head devises modes of operating which the same head, through its peep holes, the eyes, sees that their hands put into practice. His head, and that means his brain, is in communication with the brains of other farmers, who are overseers of their laborers, and the mutual conflict of brain with brain, of thought with thought, educates each into a better understanding of his craft. I am a great advocate of professional and practical specialities, for I believe that a devotion to one pursuit, the doing of one thing well, tends to a better understanding of a given subject, and elevates its practitioner to improved degrees of skill therein, and every degree of knowledge attained by the directing head, acts immediately upon the operating hand, and the operating hand, in this instance, acts upon the clods of soil, and makes it yield two grasses, two blades of wheat, two turnips, two pumpkins, and two units of all products else, where but one was yielded before. But to return. The great land-holders are comparatively few in number. I have seen them variously computed at from 30,000 to 40,000, who hold land property yielding an annual rent of not less than \$500.00 per annum—the number rapidly diminishing as the annual rent increases. The incomes of the wealthiest range from \$100,000 to \$1,500,000 per annum. One hundred years ago, the land-holders of England

proper were numbered at 230,000, which number has been ever since rapidly diminishing by the purchasing of the lands of the thriftless and wasteful, by the more prudent and wealthy. The Marquis of Bredalbane rides out of his house a hundred miles in a straight line to the sea, on his own property. The Duke of Sutherland owns the county of Sutherland, stretching across Scotland from sea to sea. The Duke of Devonshire, besides his other estates, owns 96,000 acres in the county of Derby. The Duke of Richmond has 40,000 acres at Goodwood and 300,000 at Gordon Castle. The Duke of Norfolk's park, in Sussex, is 15 miles in circuit. An agriculturist bought lately the island of Lewis, in the Hebrides; it contains 500,000 acres. Their large domains are growing larger. The great estates are absorbing the small freeholds.

Among these great soil owners are many men of the highest intellectual powers and attainments, of the highest social position, and of the most refined culture; noblemen, not only by the right of geniture and rank, but noble men in the noblest sense of the word, who are carrying forward upon their enormous estates, the most magnificent operations in the highest culture of the soil, winning from their well fed and well tilled acres, the richest reward of the wisest husbandry. One contemplates with amazement the magnificence of their arrangements for irrigating hundreds of acres, as may be seen on the estate of the Duke of Portland, at Welbeck, in Nottinghamshire; the vast extent of their systems of drainage and subsoiling, the enormous capital invested in carrying on their agricultural processes and improvements, and the enormous revenues by which they are enabled to push forward their splendid designs. I thank God that he has put in the hearts of such men to devote their splendid talents and their great resources to an enterprise so unspeakably important, and to exert their powerful influence in the promotion of so great a cause—a cause which holds concentrate within itself every inducement which should allure the loftiest minds and the fullest means to its support, because on its success humanity itself, the noblest creation of the divine mind, depends for the continuance of its very existence. I venture to assert that but for the high culture which the soil of England has received

under such influences, and the consequent development of its exuberant riches, her population could not have made the great strides that have carried it from 4½ millions in 1600, to nearly 25 millions in 1850; nor could the nation itself have attained that immense power and wealth, that make her now to stand foremost among the nations of the world, and her nobles the richest and the noblest of all earth's nobles. Under the influence of the culture, created by the action of such minds upon labor, we find a yield of 50 to 80 bushels of wheat per acre in England, and from 40 to 70 in France, and the productive power of an acre of land in the well cultivated part of Europe to be double what it was 75 years ago. In proof of the influence of improved tillage in England in enabling her to sustain her own people with diminished reliance upon importations from foreign countries, I may here state the interesting fact that while in the first ten years of the present century, she imported foreign wheat, at the rate of eight quarts per annum for each person in the realm; in the next ten years she imported but six; in the next five years, but four, and in the last three years of these five, at the low rate of a single pint—the soil of the kingdom supplying all the rest consumed. More land had indeed been brought under tillage, but every acre, old and new, had been better tilled, and had made a better yield.

And now, here in dear New-England, how hath stood, and how stands the great art, when viewed by the light of English husbandry? Conceding that, as a whole, ours is now inferior, though probably at the outset ours was better than theirs, at their outset, (all outsets savor of crudeness,) we may justly insist, in relation to the two when brought together for comparison, that Dogberry's saying is specially applicable, that "comparisons are odious."

The climate of England is, if the expression may be allowed, more strictly an agricultural climate, and generally highly favorable to her farming. Her frequent rains, coming at brief intervals, and her nourishing fogs, give a vigorous life and a beautiful freshness and greenness of look to the grasses. These, indeed, they sometimes do have in excess, and damp, and wet, and want of sunshine thus become severe obstacles. But these are the exceptions and not the rule. With us, heat and cold, wet and dry, in

sudden succession, like unlooked for and unbidden guests, just when least desired, or drouths of intense endurance, burning up and killing of every green herb upon the face of the land, and then deluges of rain, as though "the windows of heaven were opened," flooding field and farm, and which would sweep and wash off houses and barns, and the very land and all before them, in one resistless, watery devastation, had not the merciful Almighty provided outlets in our huge riverbeds, through which the accumulated torrents may find their way back to their ocean home; these are to us the rule and not the exception. Nor is the English farmer, banished from his fields, as is his American brother, nearly one half the year, by winters of the horrible severity of those which bind our soils in their icy shackles. Ditching and draining, which may be performed in England after all other labor is ended for the season, during their comparative mild winter, is impracticable against our adamantine frosts of four feet deep. Their soil, too, better than the general average of ours, never hardened by beating rains, nor baked by fervid suns, yields more easily and kindly to implements of tillage. But then, to contend with all hindrances, we have the great advantage of bringing into immediate conflict with the soil a much better agricultural population.

There are with us no owners of huge estates, no middlemen leasers, and no degraded laborers. Our farmer is the owner of his land, his house, his barns, his tools, and his stock, and he is the laborer on his own acres, and whatever help he employs, are his sons or his hired men, and he and they all work together. Being, moreover, men of better education (God prosper the common schools!) than their compeers of the old country, they bring to assist them in their work the help of mind far more matured. Ours are descended from a race of men, God-fearing and God-serving, who, "accustomed in their own native land to no more than a plain country life and the innocent trade of husbandry," followed, in their voluntary exile here, both from choice and necessity, the same harmless occupation. Their difficulties and their dangers were equally terrible, and would have discouraged any men other than those of the iron will and unflinching nerve, and the steady perseverance which marked

the primitive fathers of New-England. No imaginings of ours can picture the intense agony of their sufferings. Rude cabins, affording a ruder shelter, rude storehouses and rude fortifications were the earliest doings of these early days of our country. For years, sweeping through their ranks, death stalked with merciless sickle, and the living could scarcely bury the dead, or the whole care for the sick. All evils pressed upon them but despair, and all comfort forsook them but the comforting assurance that God cared for them. Their first acts, after the weary and dreary winter which dated their landing had worn itself away, and nearly worn them to death, were acts of tillage to secure the naked necessities of life, and so fruitless, did their early harvests prove, that even in the third year of their settlement their supplies were so scanty, that they often "knew not at night, where to have a bit for the morning." A lobster, a fish, a few clams, or quahogs, a cup of cold water were frequently all the meagre hospitalities they could extend to any new comers.

Ah, my friends, in the midst of our fullness, how can we realize their destitution! In the midst of our success, how can we realize their weakness! As little as in the midst of our irreligion and our ingratitude, for like Jeshuran, we have "waxed fat and we kick," we can realize the intensity of their confident hope, and the fervency of their piety. Out of these small beginnings, these simplest elements of all colonizings, a result has been matured, out-romanizing the wildest imaginings, and a people whose influence must be felt in all coming ages of the world.

CHINESE SUGAR CANE.

LAST spring, through the kindness of Col. B. P. Johnson, I received a paper of Chinese Sugar Cane Seed, which I planted at the time of planting my corn, on the 26th of May. It was planted the same as the corn in hills, about three feet each way, with from four to six grains in a hill. The ground was quite gravelly and stony, being on a diluvial formation. The ground was also quite rich, being a sod where cattle had run more or less for years. In ten or twelve days the young plant begun to show,

but appeared very feeble. At the time of first hoeing one would suppose it would amount to nothing. The whole field of corn and cane was much injured by worms—a number of hills wholly gone. The cane did not fairly start to grow till after the middle of July, when it grew very rapidly till the middle of September—a majority of stalks sending out two large suckers. The stalks were about ten feet high and much thicker than any I had seen. On the morning of the 30th of September our first killing frost came, that stopped all vegetation. The cane at that time looked as much as two weeks of being ripe—hardly a seed had begun to turn black. On the 5th of October we cut the cane at the ground, stripped the leaves, and cut near two feet of the tops off, and drew the stalks and run them through a scrach cider mill, and pressed in the cider press. The yield of juice was as much as fifteen gallons, from about 400 stalks, the whole boiled away in a large kettle out doors. After being cleansed with lime and skimmed a number of times, the boiling was continued till there was about one and a half gallons, nearly equal in goodness to West India molasses. If the plant had been ripe and a different process gone through with, the result would have been much better. It is well worth raising for cattle alone.

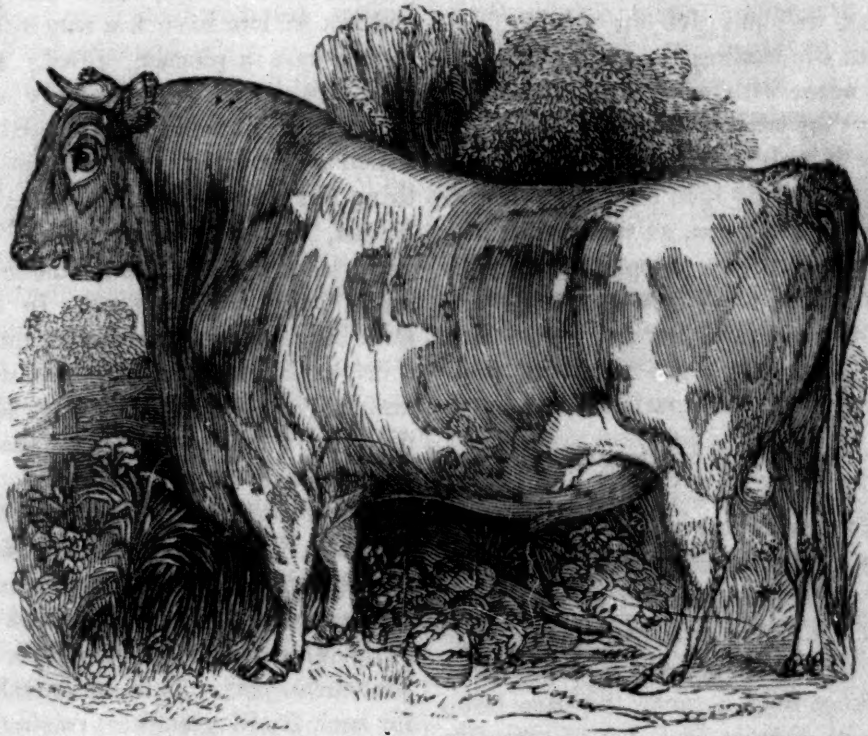
R. HOWELL.

NICHOLS, Dec. 14th, 1857.

WHEAT PER ACRE.

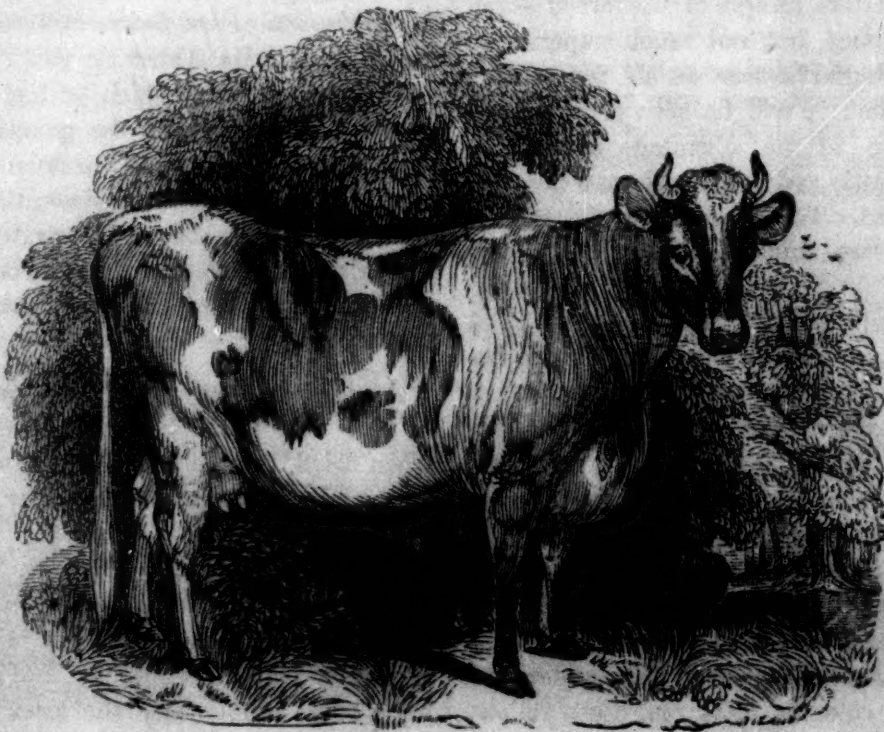
THE London *Economist* says: "The English wheat crop is remarkably good, of unusually fine quality, and the weight fully up to sixty-four pounds per bushel. In Kent and Essex, the produce is from forty-six to fifty-six bushels per acre. In the Midland districts the yield is forty-four bushels to the acre. In the north, north-eastern and western districts the growth may be considered the best on record. Hence it would be no exaggeration to state that England has produced this year nearly, if not quite, eight million bushels more wheat than in 1856. The *Economist* does not anticipate any great reduction of price in consequence of this great produce, but says there will probably be a proportional increase in consumption.

BREEDS OF CATTLE.



We purpose to give in a few short articles, in this and succeeding numbers, some of the distinctive characteristics of the leading breeds of cattle. Our design is not to draw upon what others have

said, but to give in brief our own impressions. Not professing to be a *cattle man*, and not having had of late much experience in stock growing, we have nevertheless had our eyes and ears



open to the importance of the subject, and have enjoyed pretty extensive opportunities for observation. With these remarks, we shall give our opinion freely about the leading breeds, not expecting to agree with everybody, and quite willing that what we say should go for its worth only. In the meantime our columns shall be open on this subject to all candid discussion, as well from those disagreeing as from those agreeing with us. Will the advocates and the opponents of the several breeds give us short articles, presenting the results of their experience and observation?

Our cuts will be of advantage in helping to fix in the mind of those not familiar with the appearance of the different breeds, the more striking peculiarities of each. We shall not aim at an exhibition of the finest specimens—those never seen but in the stalls of mere fanciers, kept only because they are beautiful to look upon, and give the owner a pleasing notoriety. To see these you must not look at an engraving, but upon the living animal, for no engraving can do full justice. We shall endeavor rather to represent, in our cuts, a fair representative sample of the breed—well conditioned, but not much superior to what should be seen on all farms, such as we believe will be seen every where, as soon as the advantage of keeping good cattle and keeping them well is understood. We begin with the race of which we think the least. The cuts over this article represent an Alderney Bull and an Alderney Cow. A variety of this breed is called the Improved Jersey; and this we believe is an improvement upon the old Normandy cattle, or the Alderneys, as they are called, from the island whence many of them have come; but the same tendencies and general characteristics belong to both, and when we speak of Alderneys we mean the Normandy cattle, under whatever changes they have undergone.

The color is light red, dun, yellow,

fawn color, and generally varies much on the different parts, sometimes spotted, black and white, black and yellow, and but seldom in such a way as to give in our eyes a pleasing effect. In size they are small—considerably smaller than the original Normandy cattle from which they sprung. Their shape is anything but good—long, slim necked, big bellied, rump short and small, hollow back, thin in the brisket, and exceedingly feeble, frail looking. In appearance they have one redeeming quality—a bright, beautiful, gazelle, or fawn eye; and for practical use they have some redeeming qualities. One is that they give milk of a very superior quality, little in proportion to their feed, for they eat like Pharoah's lean kine, and are usually about as lean, but remarkably fine, adapted to family use, and if properly cared for, they give milk nearly the whole year. This commends them for such families as keep a single cow, and can afford to supply themselves at all times with a choicer article of milk than can otherwise be obtained. Their milk is excellent for butter; and no doubt some specimens of these cows are profitable for the dairy. The veteran editor of the *Massachusetts' Ploughman* still affirms that his favorite Alderney cow gives milk, four quarts of which will make a pound of butter. But the quantity in most cases is small, and we do not believe that, with rare exceptions, the Alderneys can ever become desirable for the dairy. The cows are gentle, but for the bulls, if highly kept, it is necessary to look out.

Another half-way redeeming quality is, that they fatten easily and quickly when dried, though one would suppose, from seeing them in milking order, that they never could be fattened. Their principal excellence, we believe, is for the one purpose, before spoken of, that of affording the finest, richest milk to families keeping but one cow, and desiring a home supply with the least possi-

ble intermission. We would recommend them for this object and for no other; and we sincerely hope their blood will never be commingled with the general stock of this country.

Any admirer of this breed may overthrow every word we have said, in our future numbers, if he can; and if we feel obliged to oppose his views, we will be a fair opponent.

The cuts above do this breed a little more than justice, as far as we can judge from samples we have met with in this country and abroad, especially that of the male. We can not admire them.
—Ed.

AYERS' WATER ELEVATOR.

THE *Wisconsin Farmer* thus describes a contrivance by which cattle are expected to draw their own water, while the owner warms his toes by a good fire and reads his agricultural paper, or is at liberty to attend to other business. It says:—"A platform eighteen feet long, and three or four feet wide, is keyed at the ground at one end, and suspended on pulleys at the other; these pulleys are upon a wrought iron shaft, with a wheel in the center, four feet in diameter, over which runs a rope, suspending a bucket. While this platform is raised, the bucket is under water in the well; the weight of the animal causes the platform to sink, turning, in its descent, the wheel, which brings up the bucket. The water is discharged from a pipe at the bottom, into a trough before the animal. Under the platform is fixed a leaking air cushion, which causes it to sink to its bearings very gradually, and without jar. The descent of the platform is proportioned to the depth of the well. One foot of descent causes twelve feet rise of the bucket. A simple system of valves in the bucket, causes the water to discharge from it while in the well, until the weight of a light animal is sufficient to counterbalance the weight of water, when the valve closes, and all the water

that the weight of the animal will move, is brought up. In ordinary wells the water elevated is about one pound for every twelve of the animal on the platform, which is more than is required, being always an excess, which can, by a water pipe, be carried into another trough, or back into the well."

TRUTH OR FICTION—WHICH.

A WRITER in the *Rural New-Yorker*, over the very respectable name of Plow-handle, one, it would seem, who eschews roguery, yet for once consented to have a hand in it, just like a great many would-be-honest people, says:

COL. MOORE:—Some years ago I got acquainted with one of your contributors who edited the *Wool Grower*, and he used to put me in print. I must say my vanity was flattered by seeing my name printed in the paper, with some things I said and some I didn't say, and we've kept the papers ever since. After all, everybody likes a little fame, but some are satisfied with a smaller amount than others. Well, I have not the editor any more to set me out, so I have been thinking I would just try and see if you would not put me into the *Rural* on my own hook—especially as I want to tell you all about my going to the State Fair at Buffalo the other day.

Concludes to go.

As it was not so far but what we could go with our own team, mother and I concluded we would hitch up and have a week to see the sights and some cousins we had not seen for a long time. Mother (that's wife, you know) thought we ought to take something to the Fair. I told her to take a tub of her butter, but she said she didn't think it was good enough, but thought I might take some of the stock. But I thought it would be a great bother. However, Sam was pretty strong in the faith that we could beat everybody on horses, and wanted to take old Nance. She's a right smart beast, is that old mare, you may depend.

Takes the mare.

Well, we packed off Sam, for I was willing to give the boy a holiday. It does the boys great good to attend these kind of Fairs, I do believe, after seeing all I saw there.

Goes in.

We got safely to town Monday night, and Tuesday I went up early to the Fair grounds to see what was going on. I got in and hunted up Sam, and found he'd got the mare entered, and had got his card on her head, and a good stall, and all things comfortable. The animal arrangements were first-rate generally, and during all the time of the Fair the supply of fodder was good. I think that Maj. Patrick, who was everybody in managing things, a trump sort of a man.

Hears something.

As I was standing up near the business office in the crowd, I heard a couple of men talking about premiums. One said to the other:

"Are you an exhibitor?"

"Yes."

"So am I, and we had better look to the committees."

"Why so?"

"You see the committees are never all full, and if you are on hand at the big tent when they are called, it's easy to slip in a friend, which is a mighty nice thing sometimes."

"Well, I am showing a patent for making cowcubers, and if I can get the premium it will make my fortune."

"And I am showing a new kind of bob-tailed hens, and a premium won't set me back."

"Well, you get me on to your committee, and I will name you for mine."

"All right; go in to win when you can."

Thinks I, perhaps if that's the way the thing leans I may as well take care of myself as anybody else. Everybody for himself seems to be the rule on these occasions. So off I streaked it to the cattle pens to find Smith, who is my neighbor, you know. Smith is in the patent bull line. [Mr. P. evidently means "improved."] Says I, "Smith, you're showing bulls, and I am showing old Nance, and I guess if merit counts we can win." And that's the talk here on paper. Then I told him what I'd heard about the committee.

"Is that so?"

"Exactly."

"Well, I think old Nance is the best mare in the yard."

"And you've got the best bull on the ground."

Then I told him that we must be up at the tent in time.

Well, sure enough, when the committees were made up I was on Smith's bull committees, and he was on the mare committee.

The Committee goes out.

The head man took the book as had the things in it, and we were all introduced to each other, and went down to look at the bulls. We were on the red bulls. So we went along and looked at them, and I didn't say much till we came to Smith's bull, and I looked at him pretty carefully, pulled his tail, punched my fingers into his ribs, and went through the motions as I had seen the others. Says I, "that's a bull that looks like it." Smith had combed him all over with a fine-toothed comb, and brushed him with a hair brush, and he did look slick, for he was just as fat as a hog. And from all I saw, I think fat at fairs, like what the lawyer said about charity, covers a multitude of sins.

Gets the horns poked at him.

Just as I said that, the fellow who had a bull in the next stall comes up to me pretty fierce, and says he:

"What do you know about bulls?"

"Well," says I, "I think I know what they are used for in my section."

"May be," says he, "you are on the committee?"

"I have that honor," says I.

"Oh! well, that makes a difference, but you ain't the man I expected to see," says he.

"Very likely," says I.

"But," says he, "that bull hain't got any pedigree."

"Well," says I, "he had a father and mother, didn't he?"

"Oh! yes, but then nobody knows who they were."

"Well, then nobody knows but they were just as likely as your bull's parents."

"But, sir, look at my bull's pedigree. There it is, sir. Got by imported Shirt-tail, out of Skimmilk by Thunder, etc.," and he showed a string of names as long as your arm.

"Well," says I to the committee, "are we to judge the pedigree or the animal?"

And they said, "The animal, of course."

"Then," said I to the fellow, "will your bull get better stock than this?"

"Of course he will," says he, "for he's got a pedigree, and that bull hain't."

"Well," says I, "your bull has got somebody to brag for him, and the other hasn't, that's certain." And that sort o' knocked him. "But," says I, "I've known people who felt grand over their pedigree, and I've seen a heap of people who couldn't go further back than their father and mother that banged them all to pieces for smartness. Handsome is that handsome does," says I, "and, as the hymn-book says, 'a man's a man for a' that.' Pedigree go to grass, I go in for the animal."

Smith's bull wins.

When we got through and looked at our marks the other two had Smith's bull second. I had him first. So we talked it over, and finally, as they didn't care much about it, they altered the figures and gave Smith the first premium, which I think was right.

And the old mare.

Smith had a great time over old Nance. It turned out that each of the other two committeemen had friends whose mares were to be judged, and they pretty soon picked out their favorites. So he kept still and let them talk, and they soon got into a quarrel, and then they appealed to Smith, and he kinder sided with one, but thought old Nance was the best mare, and finally, to keep the other from getting first, they sided with him, and he went in for both of theirs. Smith says he saw some queer things on that committee.

You see we got our premiums, but you don't see, perhaps, Col., as well as I do, that it wants something more than merit to be sure of winning.

Gets irreverent.

The State of New-York is a great State, the biggest in the Union, and the New-York State Agricultural Society is a great institution, but if there ain't some of the allfiredest big humbugs crawling around its Annual Fair, then I'm a teapot.

Concludes.

I want to tell you a heap more, but I have used up so much paper I fear you won't have patience to print my letter.

Yours to command,

JOHN PLOWHANDLE.

LABOR and capital judiciously applied to the improvement of agriculture, are a no less sure investment than in any other business.

SUGGESTIONS ABOUT AGRICULTURAL JOURNALS.

A CORRESPONDENT suggests, what we are willing to consider, and that our brethren of the press should take into consideration also, if they think proper, as follows:

I have noticed what I consider three defects in all agricultural journals I am acquainted with. The first is, there is too little space devoted to horses, their breeds, qualities, and diseases. An animal so indispensably useful surely deserves more notice than he generally receives. Secondly, farm buildings receive too little attention of a kind suitable for the mass of farmers. As a matter of course we get a few plans of laborer's cottages and suburban residences, but comparatively few good models of farm houses, suited to the majority of country farmers. A special department occasionally set apart to the laying out of grounds and placing the buildings, stating the proper distances from the public highway, the distance between house and barn, hog-house, hen-house, shop, etc., and the most advantageous way of placing each, would be of value to the community, as well as the internal arrangement and construction of barns and all other necessary outbuildings. Thirdly, agricultural tools, implements, and machinery are too much neglected; that is, the ever-day necessities, such as plows, harrows, cultivators, horse-rakes, straw-cutters, corn-shellors, etc., are not sufficiently known to the mass of farmers. For instance, the latest improved Eagle plows, Ramsey's and other newly invented harrows, Boughton's and other wheel cultivators, Gilbert's straw-cutter, etc., etc., are not to be found in any agricultural periodical within my knowledge. It appears to me that good and properly placed buildings, improved and labor-saving implements, beautiful, powerful, and enduring teams of horses suited to the road and farm, are three things that outweigh, with the exception of a

good soil, nearly all other requisites of successful farming, and are first and foremost.

LICE ON YOUNG CATTLE.

Look closely into the coats of young cattle now, and let no vermin live on their necks and backs. It is an easy matter to kill those lice, and as all lousy come out poor in the spring, it is barbarous to let such small mites as lice have their own way through the winter.

Farmers find out in the spring that their calves are poor and lousy, and they make a stir for a remedy.

Any greasy matter, well rubbed in, will kill these lice. Ashes sifted on their backs will do it. Yellow snuff costs but little, and is better than the juice of tobacco. Fine sand sifted on them will drive off lice; the only objection to sand is that it causes an itching on old cattle in the spring.—*Ploughman*.

APPLICATION OF MANURES.

It is now pretty generally agreed among practical farmers that manures of all kinds may be buried too deep in the furrow—so deep with a deep plow as to entirely destroy their efficacy for a number of seasons, if not forever. The reason why this is so is not very satisfactorily explained—for it is proved that manures never work down to any great depth, else the subsoil would be valuable after many years of deep manuring.

One great point with farmers should be to prevent loss of their barn manures by checking great fermentation. Strong manures heaped up, soon ferment and burn unless much extra matter is mixed in the pile. Some heaps heat so much as to turn white. They are "fire-fanged," as the old gardeners used to express it, and they are almost worthless when this excessive heating has been permitted. We incline to think that more of the essence of our manures is wasted by this fermentation—this heating process—than in all other modes of waste.

It is certain that excellent crops of corn are grown where the manure from the barnyard was buried no deeper than a common harrow would bury it when spread on the surface. This we often see on dry ground and in dry summers, and with only a moderate dressing of manure.

So we find that all kinds of manure

spread in October and November on grass land or meadow land, work well and increase the crop abundantly though exposed through the winter to all kinds of weather.

The truth seems to be that not much of the essence of barn manures is lost by evaporation when they are spread out where no fermentation takes place.

Still if we would secure all the essence of barn manures, we must mix them with fresh earth immediately, or in the yard, or in the field with a light furrow or a harrow. When this is done no effluvium, or ammonia, is perceived to pass away.—*Mass. Ploughman*.

AN EXTENSIVE FARMER.

It is said by a correspondent of the *Silver Creek (Texas) Mirror* that Col. Jacob Carroll, of Texas, is the largest farmer in the United States. He owns 250,000 acres of land (nearly 400 square miles) in that and adjoining counties. His home plantation contains 8,000 acres, nearly all valuable bottom lands, along the Gaudalupe River. On this farm he has over 600 acres in cultivation, on which he raises annually about 300 bales of cotton, worth at the plantation from \$75 to \$100 per bale, and 20,000 bushels of corn, worth about 50 cents per bushel. He has a force of about fifty field hands, and he works about sixty mules and horses, and fifteen yoke of oxen. Col. Carroll has, on his immense ranges of pasture lands, about one thousand horses and mules, worth \$50,000; one thousand head of cattle, worth \$70,000; six hundred hogs, worth \$2,000; fifteen jacks, worth 9,000; three hundred Spanish mares, worth \$15,000; fifty jennies, worth \$2,000; and five stallions, worth \$2,500. Col. Carroll's property, in stock and negroes, is worth at least, \$150,000; and the value of his landed estate will swell the amount to over half a million of dollars. His annual income from the sale of stock amounts from \$5,000 to \$10,000; and from the sale of cotton, to from \$15,000 to \$20,000.

ARRIVAL OF LLAMAS IN NEW-YORK.

THE brig E. Drummond, which arrived at this port yesterday from Aspinwall, brought a flock of forty-two llamas, consigned to James Fisher & Co. They were purchased by a French gentleman

for a company in this city, for the purpose, we believe, of introducing the breed on the mountainous lands of New-England. The wool of the llama is exceedingly valuable, and as the animal is very hardy and flourishes in high mountain regions, delighting in pure, rarified air, and feeding, like the camel, on almost anything in the shape of grass, no matter how coarse, it is possible that the breed may be planted successfully in the sterile regions of New-England.

The llama is probably familiar to most people who have been visitors to the traveling managerie, as a specimen is usually to be found there. It belongs to the group ruminantia, of the family of camel. Indeed, they are known to naturalists as the *camelus lama*, and are frequently called the camel of the new world. They are found exclusively in South America, and in the greatest abundance on the Andes. They are chiefly used by the natives as beasts of burthen, though they can not carry more than about a hundred pounds weight, and do not travel far without rest. In the transit of treasure from the mines of Potosi they have been found most valuable from the earliest period. The llama is much smaller than the camel of the East of Europe. It has no hump, but in shape it much resembles the camel. The neck is long and arched, and the face, in mildness of expression and the peculiarity of the split lip, is precisely like that of the camel. It rarely measures more than three feet in height. It is covered with a thick fine wool, which makes the animal impervious to cold, and renders housing quite unnecessary. Like the camel and the ox, its feet are cloven; but unlike the former animal, it has no common horny sole, uniting the toes at the bottom. Appended to the foot behind is a kind of spear, which assists it in moving over precipices and rugged paths. It is accordingly as sure-footed as the goat, and, being very agile, it is extremely difficult to capture it when it takes to the mountain crags, as it invariably does when pursued. It is found much oftener on the northern than the southern side of the Andes, and is said to become vigorous in proportion to the coldness of its situation. Thus, though essentially a tropical animal, the coldness of our northern climate is not likely to prove detrimental to its increase.

The animals on the brig E. Drummond were taken from the Cordilleras, and

were sent from Guayaquil to Aspinwall by railroad, where Capt. Chapman, of the Drummond, took them in charge. There were seventy-one of them shipped, but owing to severe weather twenty-nine died and were thrown overboard, leaving only forty-two alive. These, however, are in good condition. This is a novel importation; but if the experiment should prove successful, it may become one of some importance to the improvement of the growth of wool on this continent.—*N. Y. Herald.*

THE FALL.

RECENT financial troubles have produced their effects upon the agriculture of this country. From the Southern to the Northern extremities of our Union, agriculture has declined, not in merit, but by way of pecuniary disasters. Witness the fall in breadstuffs, in the staple products of the soil generally, and then you are convinced that we have either heretofore paid too much for food, or that we are now getting too little for it. For the good of humanity, for the good of the poor, provisions are to-day high enough to satisfy all reasonable minds. There are some kinds of food that are too low; wheat, for instance, but you may rely upon it that beef and pork are up as high as any rational mind could ask for.

The great West is full of cheap corn, in many localities it being worth only twenty cents per bushel, and, therefore, can not pork be afforded in New-York market at \$6.00 or \$6.25 per hundred pounds dressed weight? The fall would seem to be equal upon most everything. Look, if you please, at the manufacturing interests. Now cotton and woolen goods have gone down in price almost equally with barley and wheat. Indeed, cast an eye towards the mechanical departments, and you are equally surprised to find those trades amazingly depressed, with no activity to brace them up.

Happily for the prosperity of the country, some of our machine shops, woolen and cotton factories have again commenced the noise of active labor.

But the great fall to which attention has already been called, will not last always. Matters are bound to regulate themselves, and I believe that money will again be plenty within a short time. Farm products will again sell with the same activity that formerly characterized their sale, though they may not bring as high prices. For the past few months, it has been almost impossible to dispose of anything, so tight has been the money market. Everybody "most" has got something to sell, but no buyers appear. Instead of the purchasers running to you for your products, you are compelled to run to them, and then are put off with the answer that "we don't buy now, sir; our doors are closed," &c.

Mark our prediction, that unless some remarkable change takes place between now and June next, farmers will not sow nor reap more than one-half as much as they did in the year of 1857. Sluggishness always marks the energy of the country after the fall of provisions.

But I believe the community at large will be better off by reason of the low price of produce, provided the working classes will consent to work in proportion to the value of provisions. Now look at the matter,—*wheat* has been sold in Oswego this winter for seventy-eight cents per bushel—"the Milwaukee Club." What must that wheat have been bought for per bushel in Wisconsin? Probably fifty or sixty cents.

But these prices are in accordance with the times, and hence we shall have to succumb to them, and go on, paying but little attention to them, if we would be prosperous as a people.

Whether lands in the Eastern States will go down in price in consequence of low prices, I am illy able to say. I am confident lands in the West must be lower than they have been. Railroad companies have raised their prices for carrying freight, and every cent so added must, I believe, finally be paid by the Western farmer. And it does seem

as though speculators, in the West, will cease to be operators any longer, particularly in lands. These *sharks* must have lost large sums in lands which, of course, nobody cares for except those who are directly interested. The whole people have been taught a good and glorious lesson. Agricultural interests are now dormant, and will be for some time to come. The people can live cheaply; the poor can procure the necessaries of life reasonably. Men are not so amazingly greedy after wealth as they were one year since. The farming world, and the rest of the people, are, I think, taking more rest and comfort than they were under old prices. And on the whole, though we may not get rich so fast, will not the great fall be a blessing to our country?

BALDWINVILLE, N. Y., Jan., 1858.

WASTE OF FERTILIZERS.

"THE amount of manure wasted in the United States, is a subject of amazement and alarm. A judicious observer has put it at one hundred millions of dollars worth annually, passing off into the air in lost gasses, or washing away from barn-yards out into the road, or moulding away unnoticed in secluded corners all over the farms. And the worst, yet truest view of all this, is, that this great amount of fertilizing material, came originally from the soil, and ought to be restored to it, for if it be not, it is a theft of the worst sort, impoverishing both the land and the owner thereof. All decaying vegetable substances when they shall have reached that point of decay best suited to the farmer's convenient handling, must be restored to the soil, there to complete their decay to such perfect degree, that Nature can again spread them upon her ample board, at her great annual feeding and feasting of her multifarious vegetable children."

So said Gen. H. K. Oliver, at the late Fair of the New-Hampshire State Agricultural Society; and we do not believe that he at all over estimates; for though a hundred million is a large sum, still it is but a few dollars for each farmstead in the United States; and we should

think that the aggregate of individual losses from bad management with manures would be greater rather than less.

This is not however so much lost out of the world; nor is it lost for all time. The gasses that pass into the air, are returned in the rains. It is true that a portion of them fall into the ocean, and therefore do not immediately promote vegetable growth. Other portions fall so as to promote a less valuable growth than if the application were made by a wise cultivator. They are undoubtedly very widely diffused, and but a small portion of them, can it be supposed, will find their way back to the same farm from which they ascended, or to other farms with much immediate, practical benefit. Still not all is lost. The ammonia which ascends from a fermenting mass of manure, being arrested and brought down in rains, benefits, not appreciably, because of its wide diffusion, but really, a thousand farms, and some of them at great distances from where it had its origin. But its benefits are probably not half as great in the the aggregate as if it had been kept on the farm from which it escaped. Practically, then, it is not materially incorrect, to speak of the escaping gases, as lost or wasted.

It is so with the soluble salts, which are washed away into the streets. Those are not absolutely lost. They are not without effect. Vegetation of some kind, more generally useless, is promoted by them. If any of them find their way into the brook, its banks extract them from the water, and are made to produce more grass either for the scythe or for grazing beasts, and even the fish, all the way to the ocean and in the ocean itself, receive from them a greater growth and a higher flavor. But these will be regarded rather as fanciful than real returns, and we will give it up, that the soluble salts which flow from the farmyard into the street or the brook are about as good as lost. To say the least,

they are likely to be kept out of the market for a long time to come.

It is much so with those substances, of which Col. Oliver speaks as "mouldering away unnoticed in secluded corners all over the farm." If let alone, they will eventually be turned into food for man or beast. Such is the law of God, and no human negligence can always prevent. We or our descendants shall sooner or later consume that beef's skull, that lies in the corner of the fence. If ground fine, mixed with half its weight of sulphuric acid, and put into the soil now, we should have it back next fall in the form of wheat, corn, or some other product. If let alone it will sooner or later come to the same thing. But it may be a very long time first; and therefore we think Col. Oliver quite right in speaking of such things as lost or wasted; and we do not believe it extravagant to estimate the losses from the neglect or wrong management of the fertilizers within the reach of the farmers of this country, as high as one hundred millions of dollars a year. It may seem wild to some, but less so, we have not the least doubt, to those who have reflected on the subject, than to the unthinking.—Ed.

WALL ROSES.

THE secret of growing roses against a wall might be packed in a lady's thimble. A two feet deep border of strong loam, four or five feet wide, to be as rich as rotten dung can make it; the border to be thoroughly soaked with soft pond-water twice a week in dry weather, and when the roses are in bloom, to keep them thin in the branches, as if they they were peach trees, and to play the water-engine against them as for a house on fire, from the first appearance of insects till no more come. There is a reason for everything under the sun, and the reason for insects attacking roses in general, and those on walls more particularly, is from too much dryness at the roots causing the juices to be more palatable through the action of the leaves.

Horticultural.

CALENDAR FOR JANUARY.

FLOWERS.

Bulbous Roots.—Those who have not purchased bulbous roots may yet be in time to get some at the seed stores, such as Crocus, Hyacinth, Narcissus, Tulips and others. These will do well if now put into pots in a compost of thoroughly decayed stable manure, white or river sand and garden mould in equal parts. When potted they should be placed in a cellar or shed, or under the stage of of a greenhouse, and covered over their tops with six inches of ashes, sawdust or sand. In a month's time they may be taken out, a few at a time, and brought into the parlor or greenhouse to bloom. They will require water every two or three days, and should be near the light.

Hyacinths may be grown also in glasses. The water should have a pinch of salt in it, and should be changed every week, using tepid water the temperature of the room. The glass should *not* be filled so full as to let the bottom of the bulb quite touch the water.

The Greenhouse.—Give water only when really required; do not spill it about the house. Give air whenever the temperature outside is above freezing, for a few hours in the middle of the day, but shut up early (by 3 o'clock). Avoid letting in drafts of wind. Air is best admitted at the top.

If frost happens to get in, syringe the plants all over with quite cold water, and shade from the sun until the frost is out of the house. Do not raise the temperature suddenly by heat, or the frozen plants will die. The art is to get the frost out of them as *gradually* as possible, which is best done by ice-cold water.

N. B.—These remarks apply to greenhouses that are kept at low temperature, that is from which frost only is intended to be kept out.

Vegetable Garden.—The vegetable garden should have been ridged up in the fall to expose the soil to the beneficial influences of the winter's frost. If not done, do it now if the weather permits. Coldframes covered with glazed sashes should also have been filled in October and November, with young cauliflowers, cabbages and lettuces for early spring. If that has been done they will require covering at night with mats or litter which should be removed in the day and air admitted, except in very hard weather. Look also to fruit trees, and when the snow comes tread it hard round their base, which helps to keep vermin from attacking their bark when the rigor of winter makes them short of food.

From the Pear Culturist.

PRODUCTION OF NEW VARIETIES OF PEARS.

In their natural wild state, each of the different kinds of fruits, such as the Cherry, the Peach, the Pear, etc., consisted of one or more species, inferior in their original quality, or which became afterwards degenerated by unfavorable changes of climate, exhausted soils, or other causes. These several species, while in this wild and uncultivated state, always reproduced the same, with occasional slight modifications occasioned by local or incidental causes. To *change*, therefore, this naturally fixed habit of the tree, and obtain new and improved varieties of its fruit, has long been the subject of diligent and persevering effort on the part of many of the most distinguished Pomologists. But it is a process attended with a great degree of uncertainty, and requiring much time and patience. To the interested and enthusiastic culturist, however, it has peculiar attractions. By slow degrees he compels unwilling nature to bend to his continued efforts. "The sour and bitter Crab expands into the Golden Pippin; the wild Pear loses its thorns, and becomes a Bergamot or a Beurre; the Almond is deprived of its bitterness, and

the dry and flavorless Peach is at length a tempting and delicious fruit." Such are the results that attend the persevering efforts of the skilful culturist.

To produce new and improved varieties of the Pear, Dr. Van Mons, of Belgium, so distinguished in Pomological science, has labored with indefatigable energy and perseverance nearly his whole lifetime for this object, the results of which are a great number of new varieties of rare excellence. His theory, however, could not be expected to be perfect, although much valuable instruction has been drawn from his experience. His theory was briefly this.—The aim of nature is simply a healthy, vigorous state of the *tree*, producing nearly perfect seeds for its own continued propagation. The object of culture should be, to reduce excess of vegetation in the tree, diminish the size of the seeds, and increase the size and improve the quality of the pulp or fruit which encloses them. He also maintains that the *older* the tree of any cultivated variety of the Pear, the nearer will the seedlings produced from it, approach its original wild state; while seedlings from the fruit of *young* cultivated trees of good sorts, more frequently produce improved varieties.

Dr. Van Mons, acting on this principle, selects his seeds from young *seedling trees*, sows them in his seed bed, where they remain until they are of a size sufficient to enable him to judge of their character. He then selects the most vigorous and promising, plants them out and patiently awaits their fruiting. The first seeds from the best of these he again sows, and repeats the operation. Each generation comes more quickly into bearing than the one preceding it; the *fifth* sowing often coming into bearing in *three* years, and producing fruit, in many instances, of rare excellence. Whatever we may think of his theory, the results, as before remarked, have been several new varieties, productive in habit, and of delicious flavor. Following this plan, in order to produce improved varieties of the Pear, we must first be careful to plant the seeds of *seedling Pears* of healthy and vigorous growth, and continue the process until we have attained our object, viz., new varieties of a high degree of excellence.

This is the Belgian method, from which some of the fruit culturists in England and our own country dissent, and maintain that new varieties may be ob-

tained from the seeds of the most valuable sorts of our *grafted Pears*, equally as good as by the Van Mons mode, and without his long and repeated process of successive plantings; and claim that some of our native favorite fruits were obtained at once from the seeds of the old *grafted* varieties. In some instances, this is doubtless true, but whether the result is from chance or otherwise, we can not with certainty determine. Should the Amateur desire to engage in the pleasant but somewhat tardy process of propagating new varieties, it would be advisable to employ both methods, carefully keeping each distinct and separate from the other, and compare the results.

* NEW VARIETIES BY FERTILIZATION.—

This is a process for obtaining new varieties by cross impregnation, or fertilizing the pistil of one variety with the pollen of another. It was advocated and practised by T. A. Knight, Esq., formerly President of the Horticultural Society, of London, and is now generally practised in England, as well as by many of our own fruit growers, with success.

The Pear blossom has five central organs elevated above the others, called the *pistils*, the upper or enlarged extremities of each of which is called the *stigma*. These are surrounded by other delicate thread-like organs called the *stamens*, supporting on their upper extremity the *anthers*. These last are little receptacles containing the pollen or fertilizing dust. In their natural operation, when the flowers open, the anthers become distended, and when perfectly ripe, burst and discharge their pollen on the stigma, whose gummy exterior receives and retains the fertilizing shower, rendering fruitful the young seed lying at its base. This same process artificially performed, by impregnating or fertilizing the pistil of one variety of fruit with the pollen of another, will produce a fruit partaking in some degree of the properties of both. This is performed by simply clipping off, with a pair of fine scissors, all the stamens, (before the blossom is fully expanded,) of the variety which is intended to be impregnated, carefully leaving the pistils untouched, and when the flower is fully expanded, and the stigma properly matured, (which will be indicated by its glutinous surface,) transferring to it with a camel's hair pencil, the pollen of the sort with which it is to be crossed. This process

does not particularly affect the *fruit*, but the *seeds* partake of the nature of both the original sorts, and produce trees which yield intermediate varieties of new, and frequently of rare and valuable qualities. By this means some of the present excellent sorts have been obtained, both in Europe and our own country.

It will be seen at once that the process should be performed before the stigma of the blossom is impregnated with its own pollen, or that of the surrounding flowers, as it is impossible after that to inoculate it again. To prevent this, a thin gauze covering should be placed over it for a few days before and after the operation, to protect it from the pollen floating in the air, or from the intrusion of insects, by which, sometimes, the flower becomes accidentally impregnated.

HAVE YOU A CHOICE GRAPE CUTTING THAT YOU WANT TO GROW.

THEN go to the woods, dig some roots of a wild grape vine, cut them into pieces of about six inches long, cut your choice grape vine or cutting into pieces of only one, or at most, two buds; insert the lower end by the common cleft grafting

method, into the piece of wild vine root; plant it in the earth, leaving the bud of the cutting just level with the top of the ground. Every one so made will grow, and in two years become bearing plants.

SHOULD WE PLANT FRUIT TREES IN THE HIGHWAY?

I ANSWER yes, for several reasons; the first is, there is a lack of fruit in this country, the demand being much greater than the supply; and every fruit tree that is planted and properly taken care of will bear fruit sometime, and of course *help* to supply the demand. Another reason is, trees properly planted and arranged on the side of the highway help to beautify it, and make it pleasant for those who travel on it, besides being an addition to the farm upon which they are planted, and a source of constant pleasure to the owner.

Now, while I write this, I have *have a particular kind of fruit tree* in view, and that is the Cherry;—not that there are no others as good, but because there is the greatest lack of fruit at the season of the year when cherries are ripe, and because they supply food for those true friends of the farmer, the birds.—*Gen. Far.*

Mechanical.

METHOD OF CLEANING CASKS.

THE *London Engineer* describes the following process, which may be worth the notice of our agricultural friends who, in the manufacture of cider, etc., have occasion for such contrivances. A square frame of sufficient size is hung upon standards of suitable strength, into which a barrel is fastened, at the chimes, by V-shaped prongs, or any other convenient process, and the whole is made to revolve by a crank, water, or other cleansing mixtures being previously poured in in suitable quantities. This process may be repeated as many times as is desirable. This may be constructed by any one of tolerable mechan-

ical genius, and will save much time and unpleasant labor.

GELATINE, MANURE, ETC., FROM BONES.

A PROCESS has been patented in England by Mr. A. E. Schonersahl for an improvement in the process of making gelatine, glue, etc., from bones. He first separates them from all putrescent matter soluble in water, then treats the bones with acid, which dissolves the phosphates and leaves the gelatine in a solid state, and is easily separated. The water used in separating the soluble matters is reserved for other processes which prepare it for application as a manure.

IMPROVED GAS STOVE.

A GAS stove is formed of an outer case made double to contain water, or a slowly conducting material. Within this casing a series of vertical tubes are ranged round its circumference, which extend from the bottom to the top of the casing and are for the passage of air, which entering below becomes heated, ascends and escapes at the top. A patent has been applied for.

IMPROVED HORSESHOE.

A PATENT has been applied for in England for the manufacture of horseshoes as follows: The corks are made tapering and with a small screw at the end. The shoe is pierced at the requisite places, and the cork is screwed into them. This may be an economical process, if the screw holds well, since the corks may be renewed without disturbing the shoe.

MANUFACTURE OF IRON.

IRON is one of the greatest sources of future wealth in this country, and the processes by which the ores may be profitably treated for the production of iron of various qualities, naturally receive the careful attention of all engaged in such pursuits. New facts are constantly developed which vary these processes, more or less, and some of which create an important revolution in this department of art. Mr. Harding, of Leeds, Eng., has recently found an economical method of separating the shales from the metallic ore. This has hitherto been done by spreading the ore upon the ground and exposing it to the action of the atmosphere. Mr. Harding now exposes the ore to the action of steam, and thus secures results in a few hours which have hitherto occupied months.

HARVESTING MACHINES.

MESSRS. COX & NEWTON, of Greenville, N. C., have secured a patent for a machine which cuts off the ears of corn, leaving the stalks standing in the field.

WASHING MACHINES.

WE have long believed that any convenient process securing a constant stream of water through clothes that need cleansing, would be exceedingly useful, by avoiding very much of the wear and tear occasioned by severe rubbing. This destroys under-clothes perhaps quite as much as does the wearing of them. It is this feature which recommends, to our judgment, the invention of Mr. Thomas King. A method for securing this important point has been invented by Mr. A. Dickson, of Hillsborough, N. C., whose specification claims "the combination of the oscillating rubber, stationary bed, and the pumps, arranged to act conjointly." The water is discharged as rapidly as it enters.

Another recent patent, secured by Mr. Abraham Huffer, of Hagerstown, Md., includes certain contrivances for lifting the clothes out of the water and exposing them to the air, and again immersing them. This, it is claimed, both bleaches and cleanses them at the same time. We can not judge of the details of this invention, not having seen any drawings of it, but the idea seems to be a very good one.

Mr. John D. Jenkins, Jacksonville, Ill., has also invented an anti-friction machine, but the means he employs are not published in detail.

PRINTING PRESSES.

MR. RICHARD M. HOE, the great king among inventors in this department of art, and whose reputation is now world-wide, has secured a new patent, which adds to the simplicity and economy of his great press. The fly-frames which have hitherto required some complication of machinery, are now worked by a cam shaft at each end of the machine, which is in immediate connection with it.

STRIPEING TOOL.

An implement which will be found

very useful to painters has been patented by Mr. J. J. McCormick, of this city, and Mr. George Crossingham, of Croton Falls. It will stripe a line of any defined fineness, from a mere thread to two inches, in straight lines or in curves. The paint is fed by means of a piston.

SEGAR MACHINE.

A PARAGRAPH has been going the round of the Provincial papers, stating that M. Practorius, of Berlin, has "constructed" a machine for making segars, and that it rolls out 5,000 segars a day, and economizes both tobacco and manual labor. Upon the admitted principle that "honor should be given to whom honor is due," it is only right to state that the paragraph in question is not quite correct. It is true that M. Practorius, of Berlin, possesses such a machine, and that it combines all the useful qualities attributed to it; but it was from Liverpool that it was obtained. America claims, and is entitled to, the honor of the invention; but, many years ago, a Liverpool firm, James Steel & Co., 78 Duke street, purchased the patent, and subsequently made considerable improvements in its construction and working. The patent has many years yet to run, and it is still in the hands of the house just mentioned, who have the exclusive right of using it or permitting its use in the United Kingdom. M. Practorius, of Berlin, purchased his machine from a firm in Hamburg, to whom Messrs. Steel & Co. had sold it, and it has since been patented for the kingdom of Prussia. There can be no doubt of the ingenuity and value of the machine; but while a foreign manufacturer only buys it, he must not be allowed to steal the honor of construction from England, or invention from America.—*London Mechanics' Magazine*.

WHAT WILL A GLASS OF WATER HOLD?

It is generally thought that when a vessel is full of water any solid substance immersed in it will cause it to overflow, and such will be the case if the substance is not soluble in water; but the philosophic truth, that in dissolving a body you do not increase the volume of the solvent, may be proved by a simple and interesting experiment.

Saturate a certain quantity of water, at a moderate heat, with three ounces of sugar; and when it will no longer receive that, there is room in it for two ounces of salt of tartar, and after that for an ounce and a dram of green vitriol, nearly six drams of niter, the same quantity of sal ammoniac or smelling salts, two drams and a scruple of alum and a dram and a half of borax. When all these are dissolved in it, it will not have increased in volume.—*Scientific American*.

SWIMMING LIFE PRESERVER.

THE saving of human life, whether from fire or water, and the prevention of accident generally, is a noble and philanthropic aim, and every one who directs his attention and inventive powers to such a purpose is to be regarded as a benefactor to the human race at large, by those who have any humanity in their hearts. We are happy then to chronicle the invention and patenting of an apparatus for saving life from shipwreck and similar catastrophies, by A. J. Gibson, of Worcester, Mass. This invention consists in making a deep, broad belt of india rubber or other elastic and waterproof material, constructed with air chambers, and having combined with it hollow floats which extend along each arm and expand at the hand to furnish broad paddles or means of propulsion in the water, which aid the person wearing it, in swimming, and by this means gaining any desired place of rest or refuge. *Scientific American*.

HOW MOISTURE AFFECTS THE VALUE OF WOOD.

WHEN wood is newly cut it contains a large quantity of water, (sap,) varying in different varieties from 20 to 50 per cent. Trees contain more water in those seasons when the flow of sap is active, than when the growth is suspended; and soft wood contains more than hard. Exposed to air a year, wood becomes air dried, and parts with about half its water; 15 per cent. more may be expelled by artificial heat; but before it loses the half of its moisture it begins to decompose, or char. The presence of water in wood diminishes its value as fuel in two ways—it hinders and delays the combusive process, and wastes heat by evaporation. Suppose that 100 pounds of wood contain 30 of water, they have

then but 70 of true combustible material. When burned, 1 pound of the wood will be expended in raising the temperature of the water to the boiling point, and six more in converting it into vapor, making a loss of 7 pounds of real wood, or 1-10 of the combustible force. Besides this dead loss of 10 per cent. of fuel, the water present is an annoyance, by hindering free and rapid combustion.

HOW TO MEND CHINA.

FROM an English almanac we, a long time since, cut a recipe for mending china, and the opportunity having occurred for trying, we found it admirable, the fracture being scarcely visible after the article was repaired. It is thus made: Take a very thick solution of gum arabic in water, and stir it into plaster of Paris until the mixture becomes a viscous paste. Apply it with a brush to the fractured edges and stick them together. In three days the article can not again be broken in the same place. The whiteness of the cement renders it doubly valuable.—*Exchange*.

CEMENT FOR JOINTING STONE.

A CEMENT which gradually indurates to a stony consistence, may be made by mixing 20 parts of clean river sand, 2 of litharge, and one of quick-lime, into a thin putty with linseed oil. The quick-lime may be replaced with litharge. When the cement is applied to mend broken pieces of stone, as steps of stairs, it acquires after some time a stony hardness. A similar composition has been used to coat over brick walls under the name of mastic.

AMERICAN MECHANICAL SKILL.

THE viceroy of Egypt gives a decided preference to the works of our American artisans, in which he shows excellent sense. A barque is loading at Boston for Alexandria, with a complete ponton train manufactured by Boston mechanics, to the order of the viceroy. The train consists of twenty-six wagons, and will carry the materials for constructing a bridge three hundred feet in length. The cost of this is upwards of \$30,000. There are also boxes of tools, of every description, for the use of a moving army. One box of joiner's tools, from

the manufactory of F. G. Gouch, of Worcester, are much admired for their superior make and exquisite finish. Osgood Bradley, car manufacturer, has an order from the viceroy for a train of eight-wheeled passenger cars, the cost of which will exceed \$100,000.—*Kennebec Journal*.

MAKING WOOD FIRE-PROOF.

PROFESSOR ROCHELDER, of Prague, has just discovered a new antiphlogist material, which promises to become of importance. It is a liquid chemical composition, the secret of which is not yet divulged, which renders wood and other articles indestructible by fire. Several successful experiments have been made, and others are promised on a larger scale.

LAMPS FOR THE BURNING OF KERASINE OIL.

THESE lamps are manufactured by Messrs. Dietz & Co., 132 William street, New-York. For producing a brilliant light at a small expense we think they would be hard to be outdone. No unpleasant odor, as far as we can perceive, arises from the kerosine, as burnt in this way. Having tested these lamps, we can cheerfully recommend them to our friends.

ANOTHER GREAT SHIP.

A GENTLEMAN of Liverpool, England, has proposed to build a ship which will dwarf even the *Leviathan*, to be called *Palmerston's Foresight*. The proposal was first received as something worthy of attention, but it has been found from his model that it would be unfit for any practicable purpose, being almost flat bottomed, with vertical sides, and no visible keel; in fact, it is but a gigantic box that might swim, but would be of no value as a ship. We chronicle this fact to illustrate the mistakes that persons make when undertaking to invent or improve upon anything without first fully understanding what they are about.

Scientific.

C H E M I C A L .

8 OXYGEN

Water with other substances forms *hydrates*, as hydrates of lime, of iron, etc.

16 OXYGEN

Carbonic acid forms carbonates, as carbonate of lime, (chalk, marble, lime-stone,) carbonate of soda, (washing soda,) bi-carbonate of soda, (cooking soda,) etc.

14 NITROGEN

1 HYDROGEN

9 WATER.

6 CARBON

22 CARBONIC ACID.

3 HYDROGEN

17 AMMONIA.

The three compounds above, water carbonic acid, and ammonia constitute a very large part of the food of all growing plants. Nothing could grow if deprived of either of them. Decaying plants and animals are always giving them off; and living, growing plants are always receiving them.

CARBONIC ACID.

Of oxygen as compounded with hydrogen in the form of water, and of its uses in vegetation, we have spoken at length. By the second formula above it will be seen that 16 lbs. of oxygen combined with six of carbon form twenty-two lbs. of carbonic acid. The young reader should keep in mind, that oxygen in its pure state is a limpid gas, constituting the vitality of the air we breathe, and that carbon, in a state of purity and crystalized, constitutes the diamond, but is better known as charcoal. In the latter form it is not quite pure, having a little ash mixed with it.

About one part in twenty-five hundred of the atmosphere is carbonic acid. This gas is once and a half as heavy as atmospheric air. When thrown into the air, its first tendency is to settle down into low places, as near the floor of a room, or into an open well, and consequently lives are sometimes destroyed by it, by descending into dry wells or into cisterns or vats in which liquors have been fermented. But a secondary tendency is to an equal diffusion of itself through the whole extent of the atmosphere. The air slowly takes it up and diffuses it through its whole mass. If you put a drop of alcohol into a barrel of water, it will mix equally with the

whole. So with this gas in the air. If you put a few drops of strong vinegar on a piece of chalk, this gas will escape. First it falls to the floor, but soon will be taken up and equally diffused through the whole room.

Its proportion in the air varies a little at different times and places, but is generally, as we have said, about one part in twenty-five hundred. Growing vegetables are always drawing carbonic acid from the air. Other causes are constantly throwing it into the air, so that the above proportions are very nearly preserved. Now if the air contained much less, plants could not grow, for no plant can flourish without this gas; and if the air contained much more, animals, including man, could not live, for it is poisonous when breathed in much larger proportions than is usual. In future numbers we shall show how the air is kept constantly and certainly supplied with this gas to meet the wants of vegetation, and yet not over-supplied to the destruction of animal life.

Few subjects are more gratifying to a laudable curiosity, or attended with more valuable practical results, than that of the exhaustion of this gas from the atmosphere, its constant re-supply, and its influences on vegetable and animal life.

FOR THE AMERICAN FARMERS' MAGAZINE.

THE WEATHER.

APPEARANCE OF BIRDS, FLOWERS, ETC., IN NICHOLS, TIoga Co., N. Y., IN NOVEMBER, 1857.

By R. Howell.

Place of Observation, 42 degrees North, on a Diluvial Formation, about 40 feet above the Susquehanna River, and 800 feet above tide, according to the survey of the New-York and Erie Railroad.

Oct.	6 A.M.	1 P.M.	9 P.M.		REMARKS.
1	30	50	40	N. & S.	Cloudy. Light rain at 9 P. M.
2	33	53	41	S. W.	
3	33	44	40	North	
4	31	47	36	South	
5	30	56	54	"	Rain commenced at 2 P. M.
6	52	62	55	"	Light rain in the evening at 8 o'clock.
7	36	56	54	"	Light rain in the morning.
8	56	72	65	"	
9	65	72	68	"	Very hard rain from 3 to 6 in morning. Small streams over the banks. Rain from 9½ P. M. to 2 or 3 in the morning.
10	40	43	27	West	
11	24	44	28	"	
12	26	50	45	South	
13	41	47	36	S. W.	Light rain in the afternoon.
14	30	29	24	North	Snow squall.
15	14	36	22	"	
16	19	36	35	South	Snow squall in the morning. Rain the afternoon.
17	34	38	34	North	
18	36	40	30	South	White hail in the forenoon.
19	39	39	29	"	Rain commenced at 10 o'clock and turned to snow.
20	16	22	14	S. W.	
21	18	29	25	S. E.	
22	29	35	21	S. W.	Snow squall in forenoon. [till 4 P. M.]
23	24	42	28	South	Hard rain commenced at 11 A. M. and continued
24	22	25	18	S. W.	Snow squall in the afternoon.
25	8	18	15	N. W.	Susquehanna river froze over 4 miles above Owego.
26	17	25	14	North	
27	12	36	21	"	Clear.
28	14	42	22	South	Cloudy.
29	13	40	31	"	Clear.
30	35	48	45	"	Cloudy.

The storm of the 9th was the most severe ever experienced for the length of time of its continuance. Small streams over the banks. The force of the water was so great that logs and stones were moved that had lain more than twenty years. This storm could not be far above here in a south-east course, for the large creek running in that direction was not half-banks. In the evening of the 9th was a rain nearly equal to the one in the morning. These two storms took place at the same time as the great storm that inundated the central and west part of the State, and, as far as I can learn, lasted from 35 to 45 hours.

METEOROLOGICAL.

CHAPMAN'S PRECALCULATIONS.

(Entered according to Act of Congress, in the year 1856, by L. L. CHAPMAN, in the Clerk's Office of the District Court, for the Eastern District of Pennsylvania.)

FIRST DEPARTMENT.

EXPLANATORY.

VISION, (instead of being a faculty possessed and exerted at will on distant objects,) is simply a sense of feeling excited on the nerves of the eye by currents of electricity radiated or reflected from the object seen. Hence, light is identical with electricity, which, hence, instead of being confined to our earth, is the common property of the solar system.

The angles of incidence and reflection are *Positive* and *Negative* angles, inducing (with other causes) a successive series of positive and negative conditions of the atmosphere and elements.

THE TERM POSITIVE is here given to conditions abounding more with vital electricity, inspiring more health, vigor, cheerfulness, and better feelings for business, intercourse, etc., and consequently greater success, enjoyment, etc.

THE TERM NEGATIVE is given to those conditions which abound less with electricity, and consequently are more unfavorable to health, feelings, business, social intercourse, etc.

† Indicates Sundays.

FIRST MONTH, (January,) 1858.

<i>Tendency.</i>	<i>Time o'clock</i>
1st, Negative, from 5 morn to 12 noon. Positive, from 1 to 3 eve. Negative, from 4 to 10 eve.	
2d, Positive, from 1 to 8 morn. Negative, from 5 to 10 morn. Positive, from 11 morn to 12 eve.	
3d, † Positive, from 1 morn to 4 eve. Negative, from 5 to 12 eve.	
4th, Mixed, from 1 to 6 morn. Negative, from 7 morn to 7 eve.	
5th, Positive, from 1 morn to 4 eve. Mixed, from 4 to 12 eve.	
6th, Negative, from 4 morn to 2 eve. Mixed, from 3 to 12 eve.	
7th, Positive, from 1 morn to 11 eve.	
8th, Mixed, from 1 to 11 morn. Positive, from 12 noon to 12 eve.	
9th, Positive, from 1 to 9 morn. Mixed, from 10 morn to 2 eve. Positive, from 3 to 12 eve.	
10th, † Positive, from 4 morn to 3 eve. Negative, from 4 to 11 eve.	
11th, Negative, from 1 to 8 morn. Positive, from 9 morn to 12 noon. Negative, from 1 to 12 eve.	
12th, Positive, from 7 morn to 12 eve.	
13th, Positive, from 1 morn to 12 eve.	
14th, Mixed, from 6 morn to 12 eve.	
15th, Mixed, from 1 to 6 morn. Positive, from 7 morn to 10 eve. Negative, from 3 to 12 eve.	
16th, Negative, from 1 morn to 12 eve.	
17th, † Positive, from 1 to 10 morn. Mixed, from 10 morn to 12 eve.	
18th, Positive, from 3 to 8 morn. Mixed, from 9 morn to 12 eve.	
19th, Positive, from 1 to 8 morn. Mixed, from 8 to 10 morn. Positive, from 11 morn to 12 eve.	
20th, Positive, from 1 morn to 3 eve. Negative, from 3 to 12 eve.	

21st, Negative, from 1 morn to 12 eve.
22d, Negative, from 1 morn to 5 eve. Positive, from 6 to 7 eve. Negative, from 7 to 12 eve.
23d, Positive, from 4 morn to 11 eve.
24th, † Positive, from 3 morn to 7 eve.
25th, Positive, from 3 to 11 morn. Negative, from 10 noon to 9 eve.
26th, Negative, from 2 morn to 12 eve.
27th, Negative, from 1 morn to 1 eve. Positive, from 2 to 10 eve.
28th, Negative, from 6 morn to 1 eve. Mixed, from 2 to 12 eve.
29th, Negative, from 1 morn to 12 eve.
30th, Negative, from 1 to 7 morn. Positive, from 8 morn to 12 eve.
31st, † Positive, from 1 morn to 12 eve.

SECOND DEPARTMENT.

The changes are four minutes *earlier* for each degree of longitude (60' miles) west. Difference of latitude in the same meridian is immaterial. The dry conditions are fair, and the damp conditions cloudy or wet, at least three or four times out of five in the average. When fair, the damp conditions diffuse a cool, damp sensation through the atmosphere.

Blanks indicate very weak, or mixed, or uncertain conditions.

† Indicate Sundays.

FIRST MONTH, (January,) 1858.

<i>Time o'clock.</i>	<i>Ray-angle.</i>	<i>Tendency.</i>
1st,	At 2 morn B" wind stirring. At 5 morn G, warm. At 12 noon R" warm, dry. At 3 eve V, cool. At 10 eve G' warm.	
2d,	At 3 morn O, damp. At 8 morn Y, warm, dry. At 10 eve V" cool, damp. At 11 eve Bv, cool, damp, windy. At 12 eve O,, damp.	
3d,	† At 4 morn G,, warm. At 4 eve R,, warm.	
4th,	At 5 morn G' warm. At 6 morn Y,, warm, dry. At 11 morn B' wind stirring. At 7 eve R' warm.	
5th,	At 3 morn V,, cool. At 4 morn I,, cool, damp. At 12 noon R, warm. At 2 eve GV, cool, windy. At 4 eve B,, wind stirring. At 5 eve G" warm.	
6th,	At 3 morn I' cool. At 8 morn V' cool, damp. At 8 eve Y" warm, dry. At 11 eve B' — At 12 eve YO, damp, windy.	

- 7th, At 2 morn V, cool, damp.
At 7 morn VI,, cool, damp, windy.
At 10 morn G, warm.
At 11 eve O- damp.
- 8th, At two morn B" wind stirring.
At 7 morn —
At 10 morn G,, warm.
At 11 morn R" warm, dry.
At 12 noon Y, warm.
At 3 eve GR,, warm, dry.
- 9th, At 1 morn B, —
At 9 morn G, warm, dry.
At 1 eve Y,, warm.
At 2 eve BO" damp, windy.
At 4 eve. —
- 10th, At 2 morn I,, cool.
At 3 morn V" cool, damp.
At 12 noon. —
At 1 eve B,, —
At 3 eve .. warm.
At 11 eve Y' warm.
- 11th, At 8 morn P cool, damp.
At 12 noon R. warm, dry.
At 10 eve O' —
- 12th, At 6 morn R' warm, dry.
At 8 morn I. cool.
- 13th, At 4 morn O,, damp.
At 12 noon V, cool,
At 2 eve R,, warm, dry.
- 14th, At 2 morn G- warm.
At 5 morn O, damp.
At 6 morn V' cool.
At 3 eve BV,, cool, windy.
At 12 eve Y-
At 12 eve I"
- 15th, At 1 morn YB- } See General
At 1 morn B- } Remarks.
At 2 morn YI"
At 2 morn BI"
At 3 morn V,, }
At 2 eve YV,, cool, windy.
At 6 eve O" —
At 10 eve R" warm.
- 16th, At 11 eve ..
- 17th, ¶ At 9 morn R, warm.
At 10 morn GO, wind stirring.
At 11 morn V" cool, damp.
At 8 eve I, cool.
- 18th, At 2 morn G' warm.
At 3 morn .. windy.
At 5 morn O,, —
At 8 morn R,, warm, dry.
At 1 eve I' cool, damp.
At 8 eve V, cool.
At 10 eve Y' warm.
- 19th, At 3 morn GB- windy.
At 8 morn G,, warm, dry.
At 9 morn .
At 10 morn O'
At 5 eve I,, cool, damp.
- 20th, At 2 morn, end of the zodiacal pe-
riod, or natural month.
At 4 morn Y,, warm.
At 7 morn G, warm, dry.
At 8 morn .. warm.
At 3 eve BO' windy.
- 21st, At 2 morn RO" windy.
At 10 morn B" wind stirring.
At 7 eve G" warm, dry.
At 10 eve I' cool.
- 22d, At 12 noon Y" warm, dry.
At 5 eve. —
At 7 eve R- warm, dry.
At 9 eve O" damp.
- 23d, At 2 morn GI" cool, windy.
At 12 noon B,, wind stirring.
At 11 eve GV,, cool, damp, windy.
- 24th, ¶ At 2 eve B' wind stirring.
At 6 eve G, warm.
At 7 eve Y,, warm, dry.
- 25th, At 2 morn I' cool:
At 11 morn O, —
At 9 eve Y' warm, dry.
At 12 eve. warm.
- 26th, At 1 eve Y, warm, dry.
At 12 eve R' warm, dry.
- 27th, At 4 morn YR" warm.
At 1 eve B" wind stirring.
At 7 eve R, warm.
- 28th, At 3 morn I- cool, damp.
At 5 morn V,, cool.
At 1 eve G" warm, dry.
At 12 eve V, cool.
- 29th, At 4 morn Y" warm, dry.
At 7 morn O" —
- 30th, At 7 morn V" cool.
At 2 eve O, —
- 31st, ¶ At 5 morn R,, warm, dry.
At 12 noon O,, damp.
At 11 eve B,, wind stirring.

GENERAL REMARKS.

Cool Periods, longer and more prominent, are more liable near the 7th, 15th.

Greater tendency to windy, cloudy or stormy periods, or gusts, near the 7th, 9th, 14th, to 16th, 23d, 24th.

Periods more prominently negative near the 9th, 14th, to 16th, 21st, 23d, 27th.

Periods of greater electrical deficiency 25th to 31st.

The number of combined and single currents intercepted on the 15th, is unusual. I judge that earthquakes, auro-ras, popular excitements, etc., will be more liable near the 14th or 15th.

Natural tendency of the zodiacal period from the 1st to 20th, dry.—From the 21st to 31st, damp.

Educational.

NONE have a higher stake in the educational interests of the country than the farmers and mechanics. They are not laborers in that offensive sense in which the term is known in other countries, and yet they are the real working men of ours. Of their position they are not ashamed. They have no reason to be. Most of them very wisely desire that their sons may follow their own or an equally useful profession. But they would be sorry that they should do this from necessity and not from choice. Far be the day when professions and employments shall become hereditary with us, as with many of the older nations, and when the son, unless possessed of extraordinary ability, shall have no choice but to follow the occupation of his father.

But what instrumentality shall prevent power and wealth, and place and station, and employment, and poverty even, and ignorance and degradation from becoming hereditary? We answer our public schools. Men in eminent positions will rarely fail to procure for their children high educational privileges. Their sons, if not destitute, as too often happens, of common sense and common prudence, will start in life with real, substantial advantages over the children of the poor and of the working classes generally, unless our public schools are made competent to give about as good an education as wealth can procure. When the son of a wood sawyer in one of our commercial cities carried off a hardly contested prize from the son of a merchant prince, it was a glorious promise that, however unequal one generation may become, the next shall start in life under circumstances of hope for all if such schools are maintained.

We would not be understood to say that the children of farmers and mechanics, and much less that those of the poor,

should be *expensively* educated; but we do say that through the home influences and those of the public school, they must be *well* educated, their minds developed, a taste for reading formed, and ability to *think* given, or each generation will commence life more and more unequally. The son will follow the avocation of his father whether fitted for it and relishing it or not, and our republican institutions will yield to others that provide specially for the few, and care little for the many, except to make a convenience of them.

On the great producing classes of this country, and especially on the farmers, rests the question, whether education, through our public schools, free to all shall be general and of that high and thorough character which alone can make our descendants, as our fathers were, capable of self-government, or whether, while our fathers wrested the sceptre from tyrants, our sons shall suffer a yoke to be put upon their necks.

CHILDREN'S CORNER.



FLOWERS are rather out of season just now, but we always think of them when we think of children, and here they are

—emblems of Spring. Well, those for whom we write are in the spring-time of life, and so flowers are in good time, though it be the dead of winter.

The weather for some time past has

been spring like, and some of our boy readers, not so far off but that we seem to see them, have been playing at marbles.



One of them is a strong, vigorous boy, about ten years of age. His name is William. We might here tell what a noble hearted boy he is, how obedient to his father, how kind to his mother, how loving and gentle to his younger brothers and sisters, and how everybody likes him—but let his actions speak for him. The world judges boys, as it does men, very much by their actions; and it is no uncommon thing to judge of looks very much by the same rule, for although William has not what would be called a handsome face, having a nose of rather huge dimensions, thick lips, a little too much rolled, and not a very smooth forehead, yet everybody says, what a fine looking fellow he is. This is because his conduct wins for him a favorable judgment. But let all this go.

William is playing marbles with some other boys. One of them is named Samuel. He is a beautiful boy, as any one would say, on seeing him for the first time; tall, straight, with symmetrical features, and a faultless complexion. Yet those who know him best, have hardly observed this. He is selfish; often he is abusive. If another boy says or does what can be interpreted into an insult to him, it is too much to be borne. If he insults another boy and gets a flogging for it, he thinks himself very badly used;

and when people see him, they do not think so much of his fine looks as of his selfish acts, and so they hardly find out that he is really handsome.

While the play is going on, and William is stooping down to throw his marble, Samuel by a sudden movement pushes him over. Had William done the same to him, it would not have been easily forgiven. But as William knew his temper pretty well, he concluded, after brushing off the dust to let it pass.

Samuel attempts the same thing again, but William saves himself by a sudden spring, and Samuel pitches into the dirt. He jumps up, and without stopping to brush himself, thinks only of revenge. With an "I'll pay you for that," he rushes at William, and if he had been strong enough no one knows what would have followed. But William keeps cool, and only defends himself, till Samuel has worried himself out in fruitless attempts at him, and then goes off home to tell his mother. Whether his mother has the good sense to ferret out of him the whole truth and then to administer a reproof that should make him ashamed of himself, is more than we know. But the boys all said that Samuel was a mean fellow; that William had used him better than any other boy would have done; and everybody, who has seen as much

of boys as we have, knows that their opinions in such matters are very apt to be about right.

LESSON IN SPELLING.

WRITE, we know, is written right
When we see it written *write*;
But when we see it written *right*,
We know it is not written *wright*;
For *write*, to have it written right,
Must not be written *right* or *wright*,
Nor yet should it be written *rite*,
But *write*; for so 'tis written *right*.
Old paper.

ENIGMA.

I AM composed of 23 letters.
My 7, 12, 3, 14, 21, 6 and 19 is the name of a country.
My 5, 8 and 22 is a hotel.
My 3, 8, 18, 5, 22 and 13 is a very useful machine.
My 9, 17, 4, 16, 23 and 11 is a cultivator.
My 11, 10, 20 and 3 is to erase.
My 1 and 15 is ancient coin.
My 2 and 13 is myself.
My whole is not far off.

Domestic.

THE SMITHSONIAN AQUARIUM AT WASHINGTON.

A FINE marine aquavivarium, or aquarium, has been prepared at the Smithsonian Institution, where the public can now inspect its curious contents. It is said that an eminent French zoologist, in order to prosecute his studies on marine animals of the Mediterranean, provided himself with a water dress, glass helmet and breathing tubes, that he might walk about under water and mark the habits of the various creatures pursuing their avocations. Any one who will visit the Smithsonian aquarium may enjoy the same opportunities, and become acquainted with the strange animals and plants of the sea without diving to gaze on them.

The aquarium is simply a glass tank, erected on a table, and filled with seawater, in which flourish marine plants and animals without any aid, or even changing the water.

The bottom of the Smithsonian aquarium is an imitation of the bottom of the sea, composed of silver sand, coarse sand and pebbles. In the center is a mass of rock, giving shelter and concealment to such animals as like concealment, while jotted about are growing specimens of fuci and algæ. In this miniature ocean cave are about three hundred specimens of animal vitality, belonging to some thirty-eight species of fishes, molluscæ, crustacæ and polypes. Some of these burrow in the sand, or modestly hide among the pebbles; others, like the hermit crabs, having taken possession of

vacant suits of submarine armor, flourish about belligerently, ready for a fight. Some are perfectly transparent, like animated particles of jelly; others are enshrined in their shells. The curious "horse-fish" paddles about with his filmy dorsal fin; and a lethargic clam protrudes its siphons, enveloped in a shaggy fringe; a solitary flounder was evidently annoyed when rooted out, and immediately burrowed himself again in the sand; while two pugnacious crabs fought gallantly over an *amphitrite auricoma*, which had been obligingly sacrificed that we might see its golded combs.—*Washington Union.*

THE DIGNITY OF PRAYER.

BY ARCHBISHOP LEIGHTON.

CONSIDER the dignity of this, to be admitted into so near converse with the highest majesty. Were there nothing to follow, no answer at all, prayer pays itself in the excellence of its nature, and sweetness that the soul finds in it. Poor fallen man, to be admitted into heaven while he is on earth, and there to come and speak his mind freely to the Lord of heaven and earth as his friend, as his father!—to empty all his complaints into his bosom, to refresh his soul in his God, wearied with the follies and miseries of the world. Where there is anything of His love, this is a privilege of the highest sweetness, for they that love, find much delight to discourse together, and count all hours short, and think the day runs too fast, that is so spent. And they that are much in this exercise, the

Lord does impart his secrets much to them.

GRAPE WINE.

EXPRESS the juice, as with the cranberries, washing the pulp in the same manner; the liquor will be about one-tenth part water. Add sugar, three pounds to a gallon of juice, and ferment as before.

We have before us a sample of wine made from each of these recipes. The cranberry and barberry wines make a very pleasant drink when mixed with about four or five times the amount of water. The other two kinds are excellent in their present state.—*N. E. Far.*

SALERATUS.

USE as little of this pernicious article as possible about your household; every particle taken into the stomach is injurious to the natural functions. This has been proved beyond doubt by careful tests among chemists.

TO MAKE CRACKERS.

Two cups of flour, one cup of butter, (or half lard and half butter,) two cups of water, two teaspoonfuls of cream of tartar, one teaspoonful of soda, and a little salt. They require only a common kneading and are very nice.

THE BEST.

NEVER grow a bad variety of anything, if you can help it. It takes the same room, and wants the same attention as a good one. Never buy cheap seed. Never waste animal or vegetable refuse. The very soap-suds from the laundry are rich manure.

CORN HUSKS FOR UNDER BEDS.

CORN husks for this purpose are too generally undervalued. Those who have used such beds for a number of years speak of them as light, cleanly, durable and generally superior to under beds made of any other material. The estimate of the value of one such bed made by a lady in a village, who had been brought up in a farm house in which several such were in use, and who offered a farmer acquaintance five dollars for one well filled, was probably not an ex-

travagant one. And if of this value, might not the labor of children, as also of men and women not more advantageously employed, be profitably used in taking care of the husks for this purpose? Those who may be induced to make a trial of this mode of converting husks into most desirable articles of household comfort and convenience, should be particular about excluding all the outer and stiffer husks, allowing none to be put into the bed save the softer and smaller ones. Some strip them with a fork, while others, with whom we should agree, use them whole.

A MOTHER'S LOVE.

IN some spring-freshet, a river widely washed its shores and rent away a bough, whereon a bird had built a cottage for her summer hopes. Down the white and whirling stream, drifted the green branch, with its wicker cup of unfledged song; and fluttering beside it, as it went, the mother bird. Unheeding the roaring river, on she kept, her cries of agony and fear piercing the pauses of the storm. How like the love of the old-fashioned mother who followed the child she had plucked from her heart, all over the world. Swept away by passion, that might be, it mattered not; bearing away with him, the fragments of the shattered roof tree, though he did, yet that mother was with him, a Ruth through all his life, and a Rachel at his death.—*Lamar-tine.*

PUMPKIN BATTER.

WASH the pumpkins clean, take out the seeds, and scrape the inside out with a strong iron spoon. Boil till soft, and rub it through a coarse sieve. When strained, put it into a kettle and boil slowly all day, stirring it often. Put in a large handful of salt. When nearly done, add a pint of molasses, or a pound of sugar, to each gallon of pumpkin. Before it is quite done, add allspice, cinnamon, ginger and nutmeg, one or all, as you may fancy. Put it into jars when done—large ones are best. Tie it up tight, and it will keep until April or May, in a cold place, if you scald it when spring comes on. It is a good sauce for table use, and is always ready for pies, with the usual addition of salt and milk. It is much less trouble, and far better than dried pumpkin.—*Gran. State Far.*

Editor's Table.

Progress—the steady and earnest effort onward—may well be selected as the distinguishing feature in American character.

To assist that effort, to ease the difficulties that beset the traveler, and to point out the straight road where cross-ways meet, should be the watchful duty of the journalist, whatever be the objects to which his lucubrations are devoted.

We are not without hope, judging from the testimony of our numerous friends, that our past efforts in the pages of this journal have given a firm helping hand to many a farmer, and answered the expectations of other readers who turned over our pages for information. Yet if we have satisfied our readers, we have not always been successful in pleasing ourselves. For as month by month has rolled on, and we have become acquainted with the wants of our friends from their numerous letters of inquiry, we have ever and anon felt regret that we could not anticipate all their requirements. Nevertheless we have thence at least gained experience; and therein we trust we have the ground-work for more amply supplying for the future the wants of every class of our readers.

With this object in view we have, upon entering on our editorial duties for the new year, determined in some measure to remodel the arrangement of our journal, in such a way that whilst on the one hand no important feature of it has been omitted, on the other the various topics discussed have been so classed together and separated the one from the other, that every class of our readers will be enabled at all times to turn readily to the subjects that for the moment become the special matter of interest to them.

The pages of this number will show the method that has been adopted, and

the same order will be observed in the subsequent numbers.

Our improvements are not confined, however, to merely typographical arrangement. We have made engagements which will enable us to present our readers with a series of articles of a popular, but at the same time, scientific character, connected with agriculture and horticulture which, whilst they will be written with special reference to *practical* utility, will also afford our readers the opportunity to become acquainted with the scientific principles upon which the practice depends. The importance of such knowledge can only be fully appreciated by those who possess it; but when presented in the familiar aspect in which we hope to place it before our readers, we feel much confidence that it will prove as acceptable to them as it will afford pleasure to us to impart it. The man who does a thing right without knowing *why*, may be a lucky man; but the man who does right and *knows why*, is a wise man, and moreover can then repeat his past practice.

Many a *lucky* farmer would be more lucky still if he were a *wise* one. Though far from *wise* in all things ourselves, we should be unfit to fill our editorial chair if we could not teach something at least to *some* amongst our readers.

We are able to promise our readers an article which we believe will be of very great value, in our February number, from Capt. Ralston, Veterinary Surgeon in the British Army, on the structure of the horse's foot, and its requirements, with regard to shoeing.

The subject of veterinary surgery is one of great importance, and one which has till of late been sadly neglected in this country. We are glad to learn that Capt. R. has recently lectured on the

subject in this city, that his lectures are highly appreciated by good judges of such matters, and that he proposes to lecture in other places, if desired. His lectures are accompanied with admirable illustrations of the organism of the horse, and are eminently scientific and instructive, as we are informed by persons on whom we rely.

J. W. FIELD, an eminently successful cultivator of the pear in Brooklyn, we learn, is about to come out with a book on the cultivation of this fruit, which we have no doubt will be a very valuable work. It is in process of publication by A. O. Moore, 140 Fulton street, N. Y.

TO OUR OLD SUBSCRIBERS.

We have more to say in another place. We will only say here, that as we have lowered our price from \$3 to \$2 for single copies, and to \$1 50 for clubs, and as we now offer to send it to such as can not conveniently club with others in order to economize in these hard times, seven months for \$1, fifteen months for \$2, and two years for \$3, we hope they will not complain of our urgency to adopt the cash-in-advance principle. Low prices and pre-pay, is the order of the day. Well, we have lowered our price, and now you will come in to the cash system. Let us hear from you this month.

Miscellaneous.

THE PAST YEAR AND THE PRESENT.

BY SENEX.

SOME fifty years ago there lived in a famed but distant city an old man, by whose dint of tact, with the aid of keen perceptive faculties, had acquired much celebrity with a large class of his neighbors as something between a prophet and a fortune-teller. He did not, however, assume the character either of a religious fanatic or of a crafty disciple of Dr. Faustus. But he was well read in the Scriptures, he had a good share of common sense, and a voluble tongue, and by degrees he acquired a fame for wise sayings and for capability to advise, which he owed more to his natural talents and a loquacious disposition than to any less worthy means. Being advanced in years, and his lot humble, he turned the good opinion formed of him to the account of his livelihood, by discussing questions put to him by his visitors in a frank and manly spirit, and without ever demanding recompense, he was ready to receive any gratuity that was offered by them on their departure. Moreover, his advice was always if not valuable at least good in kind; and few if any quitted his humble dwelling without leaving their good wishes in a substantial shape; or without having

also formed a favorable opinion of their mentor.

So considerable became this good man's fame, at length, that many from curiosity alone were induced to visit him, and hear his "wise sayings."

His counsel was usually couched in short and terse sentences; frequently in proverbs, and often too in the language of the Bible, to which he would sometimes refer his inquirers for passages that would be found applicable, he stated, to their case. As these passages were usually selected from the Proverbs and other portions of somewhat similar description, which contained some rule of morals, or which advocated Christian duty, he seldom failed to be right.

Amongst others who were led by curiosity to this wise man was a young farmer, then not long entered upon the threshold of life, whom after some of the Scripture references above adverted to, he dismissed with the parting advice, "To keep a smiling countenance and a good exertion."

The young farmer lived to become an old man, and is now gathered to his fathers! But for many years the writer of this article heard him from time to time revert with pleasure to his visit, and say

that this simple aphorism had frequently cheered him in the hour of difficulty, and that the thoughts of the old man's contented countenance and encouraging voice when he uttered it, had gone far to make him place confidence in his counsel.

The past year has been one to many of much pain and distress, to most of great anxiety and labor. The signs of the times have called for unusual exertion both of body and mind. And now that the waves of adversity which have thus ruthlessly swept over our country, have, we may reasonably hope, spent their violence and given way to less turbulent billows that require yet time to settle down into the calm of every day life, let us look around, survey the ravages of the past hurricane, and see whence we can best place our foot as the starting point for our onward course of duty.

Firmness of principle, and courageous determination must be the banner under which we renew the fight; can we do better than than take our old man's counsel? "To keep a smiling countenance and a good exertion."

Let those amongst us who have lost, in the late struggle, much, may be all, of their hoarded treasures, reflect on the blessings still spared to them.

Who that has a healthy, cheerful wife to share his sorrows as she does his pleasures would wish to regain his worldly loss at the price of her languishing frame stretched out upon the bed of sickness?

Who that rejoices in a son springing forth into manhood, a blessing to his father, the joy of his mother, would regain his worldly loss at the cost of that boy's debasement in vice and debauchery?

Who that has a sister or a daughter, happy in the innocence of blooming youth, the pride of his eyes, the sharer of his hours of recreation, and his Sabbaths, would regain his worldly loss at the price of her fall from honor to despair?

Too prone are we all to brood over the clouds of our atmosphere, and too little do we keep the eye of hope fixed on the first sun-beam that pierces through to disperse them. Some slight glances at a blacker picture still, go far to deck in brighter hues the one that is now our own.

With "a smiling countenance and a good exertion," let every one of us, be his lot cast as it may chance to be with either the Plough, the Loom or the Anvil,—put forth manfully his powers, and thankful for the blessing yet spared, be it our effort in our worldly duties to follow the example set us in higher things, "forgetting those things that are behind, and reaching forth unto those things which are before, let us press towards the mark for the prize;" and if we thus demean ourselves we shall not fail, in earthly any more than in spiritual things, to obtain our reward.

Let one and all then commence this good new year resolving throughout its course "To keep a smiling countenance and a good exertion."

WHO LIVETH?

'Tis he who heals the wounded breast
And wipes away the mourner's tear—
Whose words of tenderness flow forth
As fountains in a desert drear—
Upon whose lip Eternal Truth
Sits 'mid a world of sin and shame—
Presiding in perpetual youth,
She breathes a dying Savior's name.

'Tis he who stamps upon his brain
The lore of glorious aged flee—
Holding high converse with the Past,
And dwelling with the mighty dead!
Stealing true inspiration's fire
From Suns that never can go down;
Chained to his task with iron zeal,
And wearing Labor's thorny crown.

'Tis he who strikes Apollo's lyre,
Whose burning songs can never die—
That echo through the vast of years,
As angel's anthems through the sky,
Who girt by woe and want and pain,
In a dark wilderness of years—
Wins an imperishable name—
A broken hearted Man of Tears.

CONUNDRUM.

Why are the females of the present day like the lilly in the scriptures?

Because "they *toil* not, neither do they *spin*; yet Solomon in all his glory was not arrayed like one of these."

Very true of a part of the sex, and it is a shame that it should be so, but not true of the sex in the aggregate, nor true comparatively with the other half of the race. From the felling of the first tree and the building of the first cabin on this continent

to the present time, when we have become a great country, woman has nobly borne her part, has endured and toiled, has wrought her full share of our present greatness. This being so, the more's the pity that there should be such miserable exceptions, as give point and force to the above conundrum.

EMPLOYEES.

As the following relates to a matter of general interest we gladly give it a place in accordance with the request of Mr. Brace, Secretary of the Children's Aid Society:

TO HOUSE KEEPERS AND FARMERS AT THE WEST.

It has long been the greatest complaint with housekeepers at the West, that sufficient female help could not be obtained. There are now in our city thousands of industrious, sober girls, of good character, who are thrown entirely out of employment. Many of these are desirous of going to the West, and becoming house servants or domestics.

The difficulty has hitherto been, to find some responsible medium to connect those without work and those wanting work done. The CHILDREN'S AID SOCIETY has determined—though the effort is somewhat out of its usual field—to attempt during this season to connect this supply and demand. To do this, and to aid these thousands of poor girls, the West must also lend a hand. They must not expect well-trained servants in these girls, as they are not accustomed to house labor; still they are willing and able to learn, and only need patience and kindness. Every allowance should be made for mistakes and delays in the beginning of such an enterprise. Those applying must send the fares, as far as they are able; in all cases the Society will return the money if no girl is found to answer in general the description forwarded. Let not that, which is said to have broken down all previous enterprises of this kind, ruin this—the utter neglect of the West itself to give a helping hand. It is an effort to benefit both sides; the unemployed here, and the families there.

All letters must be addressed to Branch Office, Children's Aid Society, Clinton Hall, Astor Place, New-York.

The applications enclosing fares will always be attended to first. There will be an understanding, and, if possible, a written agreement with each girl, that her fare is to be deducted from her wages.

Parties applying will state exactly their wants, the wages offered, their town,

county and State, and the cheapest and best way of reaching the place. References from the clergyman, magistrate, or other responsible persons of the town will in all cases be demanded. It will be the endeavor of the Society to send out none but girls with good references, and who are represented to be of good character.

C. L. BRACE, Sec.

LECTURES.

THE long winter evenings are fast approaching, and still the question of a course of lectures, whether we shall have them or not, is unsettled. We are informed by the committee, that about one hundred dollars more is necessary than is now subscribed, in order to warrant them in going forward and making the necessary arrangements for a complete course of lectures. We know the times are hard; but because they are so, shall we deprive ourselves of either food for the body or food for the mind? There is scarcely a person of any grade of intellectual capacity, but would be instructed and amused double the value of the cost of a ticket. Every man who has a family should purchase tickets for them, and as we stated last year, no young single man can better show his liberality and gallantry than by purchasing tickets for two, and inviting a lady friend to share the mental feast.

We copy the above from the *Brockport Republic*, not because we suppose that village behind all others in the matter of instruction by lectures, but because we fear that many villages are behind that; and we say to parents, provide this instructive amusement, or amusing instruction, whichever you please to call it, for your children. Get some of the favorite lecturers. It is a great treat to hear an Everett, a Phillips, or a Symmes. But get more lecturers, who are sensible and sufficiently amusing, and will lecture these hard times at cheaper rates. Why should not all courses of miscellaneous lectures embrace at least two on agriculture and one or two on the mechanic arts? Surely these subjects are not without interest.—Ed.

CLEANING SADDLES, ETC.

THE following is a good recipe which will give saddles and bridles a good polish, and be entirely free from all stickiness:—The whites of three eggs evaporated till the substance left resembles the common gum, dissolved in a pint of gin, and put into a common wine bottle, and filled up with water.

LEAVES AS MANURE.

No manure is so well worth saving in October and November as the now falling leaves of the season. According to Payne they contain nearly three times as much nitrogen as ordinary barn-yard manure; and every gardener who has strewn and covered them in his trenches late in the fall or in December, must have noticed the next season how black and moist the soil is that adheres to the thrifty young beets he pulls. No vegetable substance yields its woody fibre and becomes soluble quicker than leaves, and from this very cause they are soon dried up, scattered to the winds and wasted, if not now gathered and trenched in, or composted before the advent of severe winter.—*Ex.*

The value of leaves is rather overstated in the above. Nevertheless they possess a great value. Those about the premises should be thrown into the pig-pen or the barn-yard, or what is better, preserved for litter in the stalls. In an open forest, with no under-brush, they may be drawn into large heaps, with great facility, if taken when wet after a rain, by a yoke of cattle and a scraper made from a plank 10 or 12 feet long and one or two wide, and cleats nailed across for handles. An ingenious man will make such an implement while the boy is yoking the oxen. An immense quantity can be gathered in a day; and if a little lime be mixed with them, they will be ready to compost in the spring; but it should be remembered that the forest trees will suffer by taking off their natural aliment.—*Ed.*

GOOD ADVICE TO FARMERS.

The following beautiful passage is from George Bierce's late address at Twinsburg. His closing is peculiarly beautiful:

Let the farmer's motto be, then, "good farms, good stock, good seed and good cultivation." Make farming a science in which your heads as well as your hands are employed; let there be system and reason in all your operations; study to make your farms beautiful and your lands lovely; entice, by kindness, the birds to visit and cheer your dwellings with their music; I would not associate with the man or boy that would wantonly kill the birds that cheerfully sing around our dwellings and our farms; he is fitted for treason and murder. Who does not, with the freshness of early morning, call up the memory of the garden of his infancy and child-


hood? the robin's nest in the old cherry tree, and the nest of young chirping birds in the currant bushes? the flowers planted by his mother, and nurtured by his sisters? In all our wanderings the memory of childhood's birds and flowers are associated with our mother and sister and our early home. As you would have *your* children intelligent and happy, and their memory in after life, of early home, pleasant or repulsive, so make *your* farms and *your* children's home.

BE GENTLEMEN AT HOME.

THERE are few families, we imagine, anywhere, in which love is not abused as furnishing the license for impoliteness. A husband, father, or brother will speak harsh words to those he loves best, and those who love him best, simply because the security of love and family pride keeps him from getting his head broken. It is a shame that a man will speak more impolitely, at times, to his wife or sister, than he would to any other female except a low and vicious one. It is thus that the honest affections of a man's nature prove to be a weaker protection to a woman in the family circle than the restraints of society, and that a woman usually is indebted for the kindest politeness of life to those not belonging to her own household. Things ought not so to be. The man who, because it will not be resented, inflicts his spleen and bad temper upon those of his hearth-stone, is a small coward and a very mean man. Kind words are circulating mediums between true gentlemen and ladies at home, and no polish exhibited in society can atone for the harsh language and disrespectful treatment too often indulged in between those bound together by God's own ties of blood, and the still more sacred bonds of conjugal love.

RICE MILK.

WASH a pint of rice in two waters. Add half a pound of good raisins carefully picked and cleansed, and boil well; pour off the water, and mix one quart of rich milk with the rice by stirring. Put again on the fire, and allow it to boil again for five minutes, and mix with it four table spoonfuls of brown sugar, and two eggs beaten light stirring well, and after the ingredients are thoroughly mixed, boil for five minutes longer, and the dish is ready to serve.

 SUNFLOWER seeds are said to be the best known remedy for founder in horses. As soon as ascertained he is foundered, mix one pint of the seed whole with the feed, and an entire cure may be expected.

GREAT ENTERPRISE.

A GIGANTIC enterprise is now going on in Holland, being nothing less than blocking up two arms of the sea, and replacing them by a navigable canal for merchant vessels of the largest burthen. By this operation an extent of land of 14,000 hectares (35,000 acres,) of the finest quality will be gained from the Scheldt. This canal, which will be completed in the course of two years, crosses the island of Sud-Beveland, between the villages of Hanswert, on the western branch of the Scheldt, and Wemerdins on the eastern.


SOUP, BEEF TEA, MUTTON BROTH, ETC.

In the preparation of these, our object is the reverse of that which has been previously considered. We desire to take the nutritive and savory principles out of the meat, to a liquid extract of meat, in the form of soup, broth or tea; the flesh is finely chopped and placed in cold water, which is then slowly heated and kept boiling for a few minutes, when it is strained and pressed. In this manner we obtain the very strongest and best flavored soup which can be made from flesh. Liebig says: "When one pound of lean beef, free of fat, and separated from the bones, in the finely divided state in which it is used for beef-sausages or mince meat, is uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid, after boiling briskly for a minute or two, is strained through a towel from the coagulated albumen and fibrin, now become hard and horny, we obtain an equal weight of the most aromatic soup of such strength as can not be obtained, even by boiling for hours from a piece of flesh." To make the best article it is desirable not to boil it long, as the effect is to coagulate and render insoluble that which was extracted by cold water, and which should have been dissolved in the soup. It is obvious from what has been said, that a piece of meat introduced undivided into

boiling water, merely thickens and apparently enriches the soup. This is effected by the gelatin, which is gradually extracted from the tissues, bones and other parts, but in a nutritive point of view, this ingredient is a fiction, as will be shown. Soup making is a kind of analysis of alimentary substances used in its preparation—a part is taken and a residue usually rejected. Yet it is clear that we shall have the completest nourishment by taking both parts, as the fibre of meat and the softened peas and beans of their respective soups.

FORNWALDER.

THE true name of the apple which a correspondent in Upper-Merion asks for, and which he says is sometimes called Fall of Water, Fallawater, Polly Wolly, Fally Wolly, etc., is *Fornwalder*. It was originated by a man so named, near Reading, Pa.

 SANDY land is productive in proportion to the amount of fossils in the rocks of which the sand is made; but it is, in all cases, leachy, and requires lime, clay and ashes to puddle it; otherwise manure will soak through, and do but little good.

OUTSIDER IN.

IN a country playhouse, after the play was over, and most wretchedly performed, an actor came upon the stage to give out the next play. "Pray, what is the name of the piece you have played to night?" said a gentleman. "The Stage Coach, sir." "Then let me know when you perform it again, that I may be an outside passenger."

THE BERKS COUNTY (PA.) SHOW was a great success. It lasted four days, and more than *four thousand dollars* was received at the gates! It is spoken of as the best county fair ever held in the State. Bravo!

Monthly Review.

THE weather to this time, Dec. 27th, has been remarkably mild, with none or few storms. Here in New-York we should hardly know it is winter but for the almanac. As there are more of the improvident and the poor here than almost any-

where else this is a great mercy, and should be so regarded at this time of general depression, when employers are living, if at all, on past earnings, when many who have heretofore contributed to the general beneficence are utterly unable to give, and

when some, whose charities have been wont to flow in a broad stream, are now themselves almost the objects of charity.

But the times are brightening. Money is beginning to show itself. Business, though dull at present, will soon revive. The factories are letting on the water or steam, and setting the machinery in motion. Men out of employment will soon be earning their living, and contributing to the general wealth. If the signs of returning activity and confidence do not prove fallacious, as some predict, but as we hope will not be the case, it will be a remarkable proof of the energy of the American people; for if we can easily outstride the tempest created by our exorbitant issue of paper money and our consequent extravagance, and over-trading, and too fast living, it would seem as if we were equal to any emergency.

Crime, it must be admitted, is rife among us. No less than four men are now under sentence of death in this city, and we believe that if all who as richly deserve hanging were to experience it, the number would be forty instead of four. But when we consider what an asylum our country is for vagabonds from other lands, and that a large share of the atrocities over which we mourn are perpetrated by men trained under other forms of government and other religious arrangements than our own, the abundance of crime and rascality need not shake our confidence either in republican institutions or in religious freedom. It is doubtful whether crime, as confined to native Americans, those who have grown up under the influence of civil and religious liberty, is on the increase. We hope it is not, and that future developments will fully vindicate our institutions against the charge of a demoralizing tendency, which certain parties abroad would fix upon them.

There is always a tendency to compare the present unfavorably with the past. Homer's heroes at the siege of Troy could tell of greater heroes in a previous age. It has always been so; men were larger, stronger, better in the olden time. So tradition has always said, but has not always said it truly. We do not believe we are

degenerating, growing old, decaying so fast as the *London Times* and some other foreign journals would have the world believe. There is some reason to suspect that they wish to have it so, and that the wish is father of the thought. Nevertheless we shall do well to heed the warnings. Every American citizen should feel that he has something to do in deciding our future, whether we are to be a virtuous, intelligent, moral and religious people, capable of self-government, or to be ignorant, immoral and debased, fit only to be the subjects of a despot. If one thing is more evident than another, it is, that without the just restraints of religion, without morality, without a high toned respect for integrity of life, no people can long avoid the pressure of a tyrant's foot.

England, as the intelligence of the last month has come in, stands fully vindicated on the score of bravery. But alas, that her men in power should have thought it necessary to be more revoltingly cruel than the sepoys themselves. That the latter deserved to be blown into shreds before the cannon's mouth, there is little doubt. But why should Christian England exercise such implacable revenge? Would she drink water, like her Druid ancestors, from the skulls of her enemies? Let her remember that the East Indians have some reasons for hating her. We remember hearing it shown by one of her lords, in the House of Peers, that the excise on salt had been so high for more than twenty years that the people there were compelled to forego its use—were actually driven from the privilege of evaporating their own seawater, and eating salt on their meat. There is something to be said for the rebels. Let England remember this. If her people do not raise one long, loud, distinct voice of dissent from the revengeful cruelties of her army, we shall be more glad than ever that we are far from the swoop of her power. Englishmen have often told us that the present, living England is not the same England that inflicted direful cruelties on our fathers, and that would have hung our best men as traitors if she could have got hold of them; and we have been inclined to believe it; but if her peo-

ple consent to the late doings of her brave army, we shall fear that England is not much better now than in the days of Lord North and George III., and we shall thank God more fervently than ever that we are not in her power. We confess to a disappointment in hearing no more signs of dissent from the people to the tragedies in the East after victory, but, perhaps, it is only because we have had little time to read the news. The English government is not the god of all India. Why do not the English people tell it so, loud enough for all the world to hear?

Agriculture has received a check for the present in the low prices of agricultural products. Our sympathies are with the farmers. The calculations which they made when putting in the seed will not be

verified. But after all are they better off than others? Let them remember that not a few profit by lower prices than we have had for the past few years; and let them build their future hopes rather on cheap production than on high prices, and the present discouragement may in the long run redound to their benefit.

The people of this great city seem to be enjoying the holidays as if nothing had happened. Some will, undoubtedly, receive less costly presents than usual. Many, who have been accustomed to make princely gifts, will now be compelled to ask that the *will* be taken for the *deed*; and if there is good will—love and friendship sincere—it will be about as well, and all will be happy. May our friends be so all over the country.

Markets.

NEW-YORK STOCK MARKET.

The average number of beeves brought to the market of New-York weekly is 3548. Number for week ending December 15, 2972; for the week ending December 22, 2497. Prices, former week, from 6½ cents for the poorest to 10½, for the best, averaging from 8½ to 8½; for the latter week, from 7 for the poorest to 11½ for the best, averaging a trifle higher than previous week. Beef cattle were sold in this market by the weight of the four quarters, rejecting the fifth quarter, as it is sometimes called, the hide and tallow.

It is common here to estimate the weight of the four quarters, when cattle are sold by estimate, as 56 lbs. to 100 lbs. of live weight, in medium cattle, but more in those above medium and less in those below.

Thus, if an ox weighing 800 lbs. of beef, hide, 100 lbs., and tallow 100, if sold here for \$100, would be quoted at 12½ cents, the price he brings per pound, reckoning only the four quarters; whereas if the same ox were sold in Boston or some other city, where a different practice prevails, for the same price, the hide and tallow would be

reckoned in, and the quotation would be 10 cents per pound.

A person not acquainted with these facts would be led to suppose that beef in Boston was always from 2 to 3 cents per pound lower than in New-York, whereas it is probably higher in Boston, the average of beeves taken to that market, bring, we believe, a little better than of those brought to this.

Milch cows, with calves at their side sold last week for \$25 to \$30 for common; \$40 to \$50 for good; \$50 to \$60 for extras; and a trifle higher this week.

Veal calves sold last week at 4½ to 7 cents per pound, live weight, according to quality; this week at the same, or a trifle more.

Last week sheep and lambs sold from 6 to 10 cents per pound, net weight. A considerable advance upon the previous week. This week mutton is coming in plentifully, and prices remain just about the same as last week. Sheep will dress, if fat, 55 lbs., and sometimes as high as 60 lbs, 100 lbs. live weight. Usually about half.

The price of swine last week was about 5½ cents, gross, and from 6 to 6½, net, for corn fed. Market not as well supplied this week, and prices advancing.

Recent Patents.

CHURNS.—Benjamin Beers, of New-Fairfield, Conn.: I claim a rotating dasher with spring floats, constructed and arranged substantially as described, so as to churn the cream and work the butter, substantially in the manner set forth.

CORN PLANTERS.—J. H. Bonham, of Elizabethtown, O.: I claim a conical seed reservoir, G, in combination with the caps or disks, A, figs. 4 and 8, operated by the handle, x, and constructed and arranged in the manner and for the purpose set forth.

I also claim the conducting spout, F, in combination with tilting pins, I, and block or bottom, E, constructed and arranged as set forth.

CUTTING APPARATUS OF MOWING MACHINES.—Chester Bullock, of Jamestown, N. Y.: I claim first, The mode described of attacking the cutters to guard teeth, and to the cutter bar, in combination with the shortening lip, b, by which I am enabled to readily detach said cutters for grinding or for other purposes as set forth.

Second, A hollowed cutter, so arranged in connection with other parts as to present the same or nearly the same cutting angle in every part of the stroke, when the teeth are hinged to their axes, a, forward of the cutting parts as set forth.

TREATING HEMP, FLAX AND OTHER FIBROUS MATERIAL.—J. W. Burton, of Eye, England, and George Pye, of Ipswich, England. Patented in England March 20, 1856: We do not claim merely heating or boiling fiber in water.

But we claim the described mode of treating flax or fibrous matters requiring like treatment, the same consisting in subjecting such as described to the action of a press, and to water impregnated with Fuller's earth and heated or boiled.

SEED PLANTERS.—James Carroll, of LaPorte, O.: I claim the employment of the handle, B, furnished with a discharge passage, in combination with a slide, f, which has a hand trigger, n, and with the peculiar conducting tube, A, which is furnished with shares, a a, substantially as set forth.

PLOWS.—Jarvis Case, of Springfield Ill.: I claim hinging the tongue to the beam of a plow, and extending a lever or lever seat, from one to the other, so that the driver mounted on the plow may, by said lever, throw the plow or plows out of the ground, as set forth.

I also claim supporting the front of the

beam on the center of an axle, e, supported in wheels, e e, so that said beam may be raised or lowered on said axle, but not affected by the passing of said wheels over the rough ground, as set forth and explained.

AGRICULTURAL FORKS.—Charles Clow, Abram Clow, and Charles N. Clow, of Port Byron, N. Y.: We are aware that manure forks have been constructed with cast malleable iron heads, with sockets for the tines; but in all such forks the sockets have been parallel with the sockets in which the handle was inserted, which can not be done with barley forks, for reasons heretofore given.

We therefore wish it expressly understood that we do not claim a fork constructed with a cast malleable iron head of itself considered, nor any such head in which the sockets for the tines are parallel to the socket in which the handle is inserted.

But we claim jointing the bow, E, on to the head, for the purpose and in the manner substantially as described.

PLANING MACHINE.—John D. Dale, of Philadelphia, Pa.: I disclaim all parts separately of the before described machine that are not hereinafter specifically claimed by me.

But I claim, first, The arrangement as described by which the support rollers, No. 17, and the feed roller, C, are raised, and the carriage, E, simultaneously secured, whereby I make a permanent bed and continuous feed, and by lowering the same, I make a reciprocating moving bed plate or carriage, and am enabled to change from one to the other, at the will of the operator.

Second, I claim the arrangement, whereby an adjustable cutting head, No. 37, is formed on the end of the movable carriage, E, for the uses and purposes as described.

Third, I also claim the combination and arrangement of the method set forth for attaching side cutters, by which they are both rendered adjustable in the manner specified and described by letters, G G, representing cranes supporting the side cutters hanging on arms, K K, supported and adjusted by guide braces, L L, and screw nuts, J J, all for the purpose and in the manner set forth and described.

Fourth, I also claim the particular arrangements in combination, by which the pressure bar, N, and the transverse bar, Q, are made to raise, and by which they are

made to correspond with the circumference of the rotary cutter by raising the superior feed roller, D, for the purpose as set forth.

MACHINE FOR BORING HUBS.—Zini Doolittle, Perry, Ga.: I do not claim the use of a shaft or a knife set in the shaft; neither do I claim the yokes, F F, or feed spring, H.

But I claim the employment of a hollow shaft, the rod, C, and the projection, a, with the nut, E, for the purpose of expanding the cutter, B, when the whole is arranged as shown, substantially for the purpose specified.

LIFE PRESERVERS.—A. J. Gibson, of Worcester, Mass.: I do not claim the belt, nor do I claim the construction of an inflated life-preserver with separate air chambers; neither do I claim of itself the use of buoyant paddles fitted and attached to the hands as an aid in swimming.

But I claim a life-preserver, composed of a belt, A, arm floats, B B, and buoyant paddles, C C, arranged and connected and furnished with straps or their equivalents to attach it to the person, substantially as described.

MACHINE FOR CUTTING METALLIC BARS.—Samuel Hall, of New-York City: I claim the employment of one or more revolving shear blades, fastened to the end or face of a revolving hollow cylinder as described, in combination with a stationary shear blade or blades for the purpose described.

PRINTING PRESS.—Charles W. Hawkes, of Boston, Mass.: I claim, first, The cam lever, C', operated by a vibrating platen, substantially in the manner and for the purpose set forth.

Second, I claim securing carriage ways to the adjustable bed, so that when the bed is moved by altering the impression the roller carriage will move with it, and keep the rollers always in a proper position to roll the form evenly, in combination with the roller carriage, substantially as described and set forth.

Third, I claim the nipper lever operating in the manner and for the purpose set forth.

Fourth, I claim the trip, in combination with the nipper lever, substantially in the manner and for the purpose specified.

Fifth, I claim the combination and arrangement of mechanism specified, for receiving the cards to be printed, and delivering them after they are printed, substantially as described.

HARVESTERS.—Seymour and Leicester Johnson, Jr., of Avon, N. Y.: We claim the arrangement of the outer wheel, C, drive wheel, A, and inner wheel, B, in combination with the adjustable draught

pole, R, and movable blocks, v v, the whole being arranged for joint operation, substantially as set forth.

PROPELLERS.—Almer Johnson, of Buffalo, N. Y.: I claim constructing propellers, which embody the distinctive features of my invention, substantially as set forth.

ARRANGEMENT OF LIFE AND TREASURE BUOY FOR VESSELS.—F. D. Lee, of Charleston, S. C.: I claim the arrangement of the buoy provided with the means and appliances set forth, in relation to the chest or safe and indicating buoy, and the decks of the vessel as and for the purposes described.

PLOWS.—Joel Lee, of Galesburg, Ill.: I claim the combination and arrangement of of the two wheels, E and E', attached to the different sections of the beam swiveling quarter around in opposite directions, and bracing the plow as described when used in the manner and for the purpose set forth.

SEED PLANTERS.—Joel Lee, of Galesburg, Ill.: I claim the bevel wheels, D D, constructed, arranged and operated in the manner set forth, when combined with the swivel tube, C, for the purpose described.

STEAM BOILERS.—David Mathew, of Philadelphia, Pa.: I claim the arrangement of the draft plates, e and f, in relation to the inclined tubes or flues, D, as and for the purpose set forth.

SECURING HATCHES OF VESSELS.—Edward S. Keyser, of New-York City: I claim the securing of ship hatches, and making the joints water tight, by means of the hollow flanged ribs, B, and the rubber and plates contained within it, which are pressed down over the seams or joints by the screws, d, substantially as set forth.

BED HIVES.—Samuel Kelly, of Washington, D. C.: I claim the sliding frames, F, removable pins, I, and dividing zinc plates, B', in combination with the movable passage ways, and the sliding valve, O, arranged in the manner and for the purposes set forth.

POTATO PLANTERS.—Stephen H. Strong, of Brunswick, O.: I claim the seeding wheel, B, armed with adjusting buckets, D, and checks, E, in combination with the hopper, C, and sliding bottom, R, in the manner and for the purpose set forth.

ICE-BREAKING BOATS.—James D. Foster, of Cincinnati, Ohio, and H. C. Foster and John Q. Miller, of Springfield, Ohio: We claim making the breaking bars detachable in the manner and for the purposes set forth.

SHINGLE.—Stephen R. Tenney and Asa Bennett, of Hubbardstown, Mass.: We do

not broadly claim the preservation of wood by carbonization.

But we claim a carbonized shingle, made substantially as set forth.

REAPING AND MOWING MACHINES.—Henry G. Vanderwerken, of Greenbush, N. Y.: I claim the combination of the stationary and bracing gear, F, with the auxiliary frame, A', main frame, A, driving wheel, C, and pinion, H G, arranged as and for the purposes set forth.

CONSTRUCTION OF SALT PANS.—William S. Worthington, of Newton, N. Y.: I claim the employment within a brine-evaporating pan, of a grating or perforated false bottom, C C, substantially as and for the purpose specified.

MACHINE FOR STICKING PINS ON PAPER.—Thaddeus Fowler, (assignor to the American Pin Company,) of Waterbury, Conn.: I claim the combination of the plate or form, A, with the slotted form, C, when constructed, and made to deposit the pins, substantially as described.

I also claim the combination of the sliding frame, E, with the slotted form, C, when constructed and used as described.

REAPING AND MOWING MACHINES.—J. W. Brokaw and Thomas Harding, (assignor to Benjamin H. Warden, John W. Brokaw and Jonathan C. Child,) of Springfield, Ohio: We claim the peculiar method of regulating the height of the cut, and relieving the draft on the joints of the tongue, by means of the bar, K, in combination with a tongue, I, hinged to the finger bar, C, or front of the main frame of the machine, both being constructed, operated and arranged in relation to each other, in the manner as described.

STEERING APPARATUS FOR VESSELS.—Chas. Weed, (assignor to himself and Stephen B. Cram,) of Boston, Mass.: I claim placing the parallel screws, E and F, one immediately above the other, and connecting them by the gears, H and G, the steering wheel being attached to one of the screws, in the manner substantially as described.

Second, I claim the stationary guide bar, L, as arranged with the grooved nuts, M and N, and bearing blocks, D, as set forth.

REVOLVING FIRE-ARM.—Ethan Allen, of Worcester, Mass.

CUT-OFF VALVE GEAR OF STEAM ENGINES.—Horatio Allen, of New-York City.

ADJUSTABLE GAGE FOR DOVETAILS.—Juan S. L. Babbs, of Boston, Mass., and Amos H. Ray, of Providence, R. I.

CULTIVATORS.—David P. Daggett, of Palmyra, N. Y.: I claim the peculiar construction of parts whereby the frame of

the cultivator may be elevated or depressed in relation to the surface of the soil, either parallel to the plane of the surface or inclined thereto forward or backward at any desired angle by means of the lever beam, D, swivel wheel, I, swivel clevis, H, and adjustable wheels, C, combined, arranged and operating in the manner and for the purpose specified.

MACHINERY FOR LIFTING WATER.—Isaac C. Foster, of Union City, Tenn.

CORN AND COB MILL.—Harvey Hall, of Mansfield, Ohio: I claim the cone and meal trough, cast in one piece, for the purpose of strengthening the cone, and giving a firm base for its attachment, as set forth.

CORN PLANTERS.—J. J. S. Hassler, of Ripley, Va.

TUBES FOR SEED PLANTERS.—Joseph C. Haines, of Dublin, Ind.: I claim as new, in the described combination with the tooth of a grain or seed-drill, the tube or grain duct, I, composed of a close coil of wire constructed and applied as set forth.

DRESS OF MILLSTONES.—Nelson Hayward, of Cleveland, Ohio.

EGG BEATERS.—John B. Heich, of Cincinnati, Ohio.

HORSE RAKES.—Valentine Hyatt, of Westfield, Ohio: I claim the combination of the lever, L, cross bar, C', levers, C C, and arms, G G, for raising the rake from the ground when not in use, as described.

COOKING STOVES.—Samuel Pierce, of Troy, N. Y.

SEEDING MACHINES.—Charles C. James, of Dayton, Ohio.

SEEDING MACHINES.—Hiram Kellogg, of McHenry, Ill.

COTTON AND HAY PRESSES.—James Massey, of Thomasville, Ga.

HUBS OF CARRIAGE WHEELS.—Cornelius Merry, of New-York City.

SEEDING MACHINES.—Samuel Mills, of New-Castle, Ohio.

PORTABLE FIELD FENCE.—Thomas B. Page, of Laurel, Ohio.

PORTABLE SAWMILL.—T. T. Prosser, of Oconowoc, Wis.

CHEESE PRESSES.—C. H. Robertson, of Middleport, N. Y.

LUBRICATING OIL CUPS.—Enoch N. Roland, of Baltimore, Md.

STEAM COTTON PRESS.—John Roy, of New-Orleans, La.

BRACING SPRINGS OF VEHICLES.—C. W. Saladee, of Columbus, Ohio.

BAYONET FASTENING.—J. N. Ward, of New-York City.

DRAWING KNIFE.—R. N. Watrous, of Charlestown, O.

MACHINES FOR PEGGING BOOTS AND SHOES.—Wm. Wells, (assignor to Edgar M. Stevens,) of Boston, Mass.

SEWING MACHINES.—Henry Behn, (assignor to himself and Thomas Sewell,) of New-York City.

SEEDING MACHINES.—John Critcherson, (assignor to John Warren,) of Boston, Mass.

SNOW PLOWS.—Newcomb Demary, Jr., of Attica, N. Y., assignor to James Yates, of Philadelphia, Pa.

GRATE DAMPERS.—John O'Brien, (assignor to Owen Collins and John Dunley,) of New-York City.

STRAW CUTTERS.—Moses Clements (deceased,) late of Worcester, Mass.

WINNOWER MACHINES.—John Shipley, of Princeton, Wis.

FEET WARMERS.—Heber G. Seekins, Sen., and Heber G. Seekins, Jr., of Elyria, Ohio.

LIFE-PRESERVERS.—James E. Serrell and William Davis, of New-York City.

PUMPS.—Harmon A. Sheldon, of Middlebury, Vt.

MODE OF SUPPORTING REELS FOR HARVESTERS.—Thomas I. Stealy, of Middletown, Va.

BORING MACHINE.—La Fayette Stevens, of Elmira, N. Y.

INFANTINE EXERCISING CHAIR.—John Sawin, D. J. Goodspeed, and John H. Minott, of Gardner, Mass.

BAGASSE FURNACES.—Moses Thompson, of New-York City.

STEAM BOILER.—F. R. Walker, of Tully, Mo.

Advertisements.



NEW AND IMPROVED SELF-RAKING REAPER.

THE BEST YET OFFERED. ADDRESS PELLIS MANNY, FREEPORT, ILL.

DEPOT OF THE Breckenridge Coal Oil Co.,

98 Greenwich Street, New-York.

J. THOMPSON, AGENT.

Office of the Delaware, Lackawanna and
Western Railroad Company,
Scranton, Pa., June 16, 1857.

CAPT. JOSEPH M. BROWN,
President Breckenridge Coal Oil Company:

DEAR SIR:—We have been using the Breckenridge
Lubricating Oil in the shops and on railroad en-
gines. It gives entire satisfaction—is free from

gum and works free—is superior to Sperm oil, re-
quiring one-third less than Sperm oil to do the
same work, and one-half the labor to keep machi-
nery and locomotives clean.

Very respectfully,

WATTS COOK, Master Mechanic.

JAMES ARCHIBALD, General Agent.

Crystal Palace, New-York—Exhibition of the
American Institute for the year 1857.

I have made several Photometrical tests of the
power of the light given by the Breckenridge Coal
Oil, burned in "Dietz & Co.'s Breckenridge Lamp
for the Million," and find it to give a light equal to
SEVEN Sperm candles.

WM. W. BATCHELDER,

463 Broadway, New-York.

WILLIS' IMPROVED STUMP MACHINE.

PATENTED MARCH 6, 1855.



Farmers, Mechanics, Road-Builders, Speculators, and all progressive men, your attention is called to this valuable Patent.

My Stump Machine must go before the Mower and Reaper. It has no equal. It is simple in its construction, easily worked, and not liable to get out of repair. Its common weight is about 1500 lbs. It is easily borne from place to place, and it can be loaded in three minutes, and unloaded, set up, and a lusty stump drawn, all within fifteen minutes. Once fastened, it will pull an acre and a half of stumps without changing anchorage. A single yoke of cattle, or one strong horse, is sufficient to work it. With such a team, if necessary, a power of from three to five hundred tons can be made to bear upon a single stump!

One man can work it, though two work it at better advantage. The time required to extract stumps from six inches to four feet in diameter will vary from two to ten minutes. With this Machine, standing trees may be taken out, and large rocks removed from their beds; and it is the best Machine ever invented, not only for pulling stumps, but for moving buildings, and other heavy bodies. All the iron used is wrought, of peculiar quality, imported, sustaining 57 tons to the inch!

The price of these Machines varies according to weight and size—the weight of the largest being about 1500 lbs. For the purpose of transportation, it can be boxed up, with the exception of the lever and wheels, in a box ten feet long and about fifteen inches square. I reside at Orange, Massachusetts, where I manufacture this article on a large scale, and hold myself ready to furnish it, or sell rights to use it, in any State or town in the Union, now unsold, on terms most reasonable.

This patent begins to be appreciated. All who wish to bring so good a thing into use, and thereby make a "pile of money," should come to Orange, see the inventor, see the workings of the Machine with their own eyes, and if not perfectly satisfied respecting its merits, all their expenses shall be cheerfully paid.

These Machines, properly boxed for transportation, are sold by NOURSE, MASON & CO., PARKER, WHITE & CO., and SCUDDER & CO., of Boston; and by R. L. ALLEN, 189 Water Street, New-York.

WILLIAM W. WILLIS.

REFERENCES. — Hon. SIMON BROWN, Editor *New-England Farmer*; J. A. NASH, Editor *Plough, Loom, and Anvil*; and Mr. MOORE, Editor *Rural New-Yorker*.

Ladies' Companion Sewing-Machines.

Price from \$12 to \$30.



For simplicity, durability, and good work, they are unsurpassed by any others, are made entirely under Pratt's Patents, and are warranted to give satisfaction. Samples of work sent by mail.

SALESROOMS

113 Washington st., Boston; 577 Broadway, N. Y.; corner Ninth and Chestnut sts., Philadelphia, Pa.; 55 High st., Providence, R. I.; 68 State st., Albany, N. Y.

Agents wanted. Apply to Boston office. 2t.

PATENT AGENCY

AND

CHEMICAL LABORATORY,

AT

WASHINGTON, D. C.

DR. DANIEL BREED, late Assistant and acting Chief Examiner in the United States Patent Office, has established at Washington, D. C., a PATENT AGENCY in connection with a CHEMICAL LABORATORY. He will prepare papers and drawings, and make applications for Letters Patent in the United States and in Foreign Countries, and will give especial attention to chemical cases, and also to infringements, interferences, appeals, re-issues, and rejected applications.

Having long been familiar with the Library and Model Rooms of the Patent Office, to all of which he still has access, he possesses extraordinary facilities for making thorough examinations in regard to the patentability of inventions, being enabled also to search the standard works in German and French, and thus to give to inventors, and others, reliable information concerning inventions and the arts in Europe and America.

The Laboratory is intended chiefly for experiment and analysis, for the purpose of testing and improving processes of manufacture and apparatus employed in the Chemical Arts, as also for the purpose of procuring and defending Patent Rights. After many years devoted to Chemistry—having studied in the German Laboratories under Liebig and Lowig, Dr. BREED feels confident in offering his services to Inventors and others interested in the chemical arts and manufactures, and to all who may require the services of a practical chemist.

Fees are most conveniently sent by mail, in drafts on New-York, Baltimore, Boston, or Philadelphia.

Models may be forwarded by Express, and all other business may be transacted by letter. Persons may also forward models and fees, and transact other business with Dr. Breed, through Messrs. Parish & Nash, editors of *The Plough, Loom, and Anvil*.

Patents procured through this Office, will be noticed in the *Plough, Loom, and Anvil*, and full descriptions given therein, when desired, without charge. June, 11.

BLAKE'S PATENT FIRE AND WEATHER-PROOF PAINT.

The only Genuine Article in the Market.

TO BE HAD DRY AND IN OIL, AT

205 PEARL STREET, New-York,

Of the Proprietor,

CHAS. B. GRANNISS,

Oct. 1yr.

Successor to the Patentee, WM. BLAKE.